

# NFPA 901

## Standard Classifications for Incident Reporting and Fire Protection Data

1995 Edition



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An International Codes and Standards Organization

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## **NFPA 901**

### **Standard Classifications for**

## **Incident Reporting and Fire Protection Data**

### **1995 Edition**

This edition of NFPA 901, *Standard Classifications for Incident Reporting and Fire Protection Data*, was prepared by the Technical Committee on Fire Reporting and acted on by the National Fire Protection Association, Inc., at its Annual Meeting held May 22-25, 1995, in Denver, CO. It was issued by the Standards Council on July 21, 1995, with an effective date of August 11, 1995, and supersedes all previous editions.

This edition of NFPA 901 was approved as an American National Standard on August 11, 1995.

### **Origin and Development of NFPA 901**

As the objectives of fire defense management have narrowed from the control of conflagrations early in this century toward the control of fires in rooms, the need for uniform information about fire incidents as well as for an effective method of collecting and using that information has become recognized.

In 1938, a fire reporting system prepared by NFPA was published by the International City Manager's Association. This system served as a start toward the uniform reporting of fire incident information.

In 1951, the NFPA Committee on Fire Casualty Statistics was formed. The report of that Committee was adopted as NFPA 3 in May, 1953. In its introduction, that document contained the following quote: "The absence of accurate and detailed statistics on fire casualties has hindered attempts by educational and other means to reduce the number of deaths and injuries from fire."

In 1961, the NFPA Board of Directors, after two years of surveying the need, called a national conference on fire reporting. On the recommendation of that conference, an NFPA committee was formed in February, 1963 to devise a uniform and useful system of fire reporting adaptable to the needs of the fire service in the United States and Canada.

From 1963 to 1969, the Committee strived to develop a uniform language for fire defense management and issued tentative documents as work progressed.

In 1969, the five tentative documents were combined and officially adopted as the first edition of NFPA 901. The document was updated in 1971 with minor revisions. With the 1973 edition, data elements were added to report mobile property and details of fire casualties (deaths and injuries). By the time of the 1976 edition, the committee was getting feedback from persons using the data elements in reporting systems and was able to effect modifications to improve the understanding of the data elements. Data elements were also added to report structural fire defenses and their performance at the time of an incident.

In 1981, data elements were added for reporting pre-hospital medical care. A set of data elements were developed to support the reporting of injuries and death to fire fighters as distinct from civilians. During that year, data elements were also modified and added to enhance wildland fire reporting. The 1986 edition introduced data elements for reporting hazardous material. These were expanded to a comprehensive set of hazardous materials data elements in the 1991 edition.

This 1995 edition reorganized the standard editorially to conform to the NFPA *Manual of Style*. In addition, an attempt was made to better group the data elements as they relate to each other. Discussion on how the data elements are intended to be used was added where appropriate. Classifications within some of the data elements were revised to reflect changing needs or levels of detail when capturing data or to improve their meaning and usefulness.

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NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

**Committee Scope:** This Committee shall have primary responsibility for documents on standard methods of compiling fire experience data by the fire service. The main purposes of this Committee are to develop standard occupancy and cause classification for use by cities and states in the reporting of fires, to suggest other useful information that needs to be collected, and to develop standard forms for these purposes.

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NOTICE: An asterisk (\*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Appendix A.

Information on referenced publications can be found in Chapter 15.

## Chapter 1 Introduction

**1-1 Scope.** This document describes and defines data elements and classifications used by many fire departments in the United States and other countries to describe fire damage potential and experience during incidents. It does not provide guidelines for a reporting system or related forms.

**1-2 Purpose.** This document provides a common language for the collection of (1) pre-incident information (such as fire defense features of a structure); (2) fire and other emergency incident data; and (3) post-incident damage assessments. It also defines numeric classifications for various data elements that describe fire protection and fire service information.

**1-3 Objectives.** Hostile fire, medical emergencies, and the release of hazardous materials are societal problems common to all jurisdictions regardless of size. It is only through analysis of data gathered at the time of these incidents and subsequently that an intelligent approach to solving these problems can be made. To this end, there must be a common language for the description of the community and the fire protection in place as well as the emergency incident information. Systematic methods must be available for the routine collection, processing, and use of significant local information.

The major objectives of a uniform reporting system should be:

(a) To provide for the collection of data required for legal record purposes and control of the fire problem.

(b) To provide local fire service management with information to indicate trends; to measure the effectiveness of fire prevention, fire suppression, and emergency mitigation procedures currently being used; to evaluate the impact of new materials and methods; and to indicate those areas that may require further attention.

(c) To provide a pre-fire inventory of property in a fire service district so that future needs for fire protection resources and codes or regulations may be anticipated and potential problems corrected before a fire.

(d) To provide uniform data to regional, national, and international fire and emergency organizations in order to: make the full extent of the fire and emergency problem known; reveal facts that require action on these levels; guide the effective development and administration of codes and standards; and guide fire prevention, fire protection, emergency medical treatment, and hazardous materials handling research.

A common set of definitions for reporting incident and other fire protection data, together with a method for systematic data collection, processing, and information use, comprise a complete reporting system. Only through such a system can a dependable body of facts — essential for a knowledgeable and economical attack on fire, emergency medical, and hazardous materials problems — be developed.

While some of the data elements have been primarily designed for documenting local fire service activity, many of the data elements also are used by fire protection and fire service agencies at all levels of government, commercial and industrial concerns, other government agencies, and insurance companies. Communities using definitions and data elements compatible with this document will be able to share and compare meaningful information with other communities (jurisdictions) who follow these same standards.

**1-4 Guiding Concepts for a Reporting System.** The need for information and the capability to collect data is not the same for all fire services. Urban, suburban, rural, and wildland fire agencies may vary tremendously in the amount of data they desire or the level of detail they need. Also, many fire service organizations will tailor their data collection efforts to meet their local information needs. However, each reporting community must use a uniform set of definitions and a uniform data classification structure if it is to maintain compatibility with other communities. This compatibility allows the issues of concern to the community to be represented and considered in broader assessments of fire and emergency service problems.

In order to assist a fire service organization that wishes to build its own reporting system and to realize the objectives of collecting and using data in a manner that will provide for a uniform language between agencies, several guiding concepts have been developed. These concepts are intended to ensure that any method used for the collection of data will be practical and compatible whether hand written or computerized. The guiding concepts are:

**1-4.1 Commitment.** Any reporting system should be based on commitment by the entire organization. Imposition of a particular reporting system without commitment by that organization may lead to inaccurate results and should be avoided. Training of personnel in the purposes, benefits, and procedures are critical to its success.

**1-4.2 Feedback Information.** The original data from reports, when combined and summarized, should provide meaningful information to the reporting units. This should give them access to details that will help them make planning decisions to optimize the allocation and location of resources and encourage accurate input. When this kind of information is developed and used by local agencies, there is an automatic improvement both in accuracy and completeness in the collection of data and the agencies ability to direct its resources.

**1-4.3 Simplicity.** An incident reporting system should be based on a single incident record for each fire service incident. The contents of that record will depend on the complexity of the incident and on the amount of follow-up information needed to understand that incident. Each report that becomes part of that record should be geared to what that person can gather within his/her normal duties. The incident record should then tie the various reports together.



**1-4.4 Raise Questions.** Any system should reveal areas for action and areas for additional study. Thus, a basic system should raise important questions, not try to give answers to all preconceived questions. Special studies should be conducted to answer “one-time” questions or areas of special concern.

**1-4.5 Report Completion.** The original report(s) should be completed by the person who gathered the data. It should reflect what was actually seen or done at the incident. To accurately describe the situation found, the report can be written in the person’s own words, coded using the data element classifications in this document, or a combination of both. The classification of the data can be done by the person completing the report or by a central coding office.

**1-4.6 Report All Incidents.** Every incident should be reported regardless of the type or extent of that incident. An incident occurs when there is a response to any alarm. This includes responses to actual emergencies as well as false calls, situations when the responding units are returned by radio, and all other incidents whether or not any work was performed at the scene.

**1-5 Fact Finding.** The traditional legal function of reporting incidents can be satisfied with a written narrative of the basic facts, or it can be as sophisticated as an automated system from which data can be retrieved on demand. To serve as input to a fire reporting system, however, an incident report must be clearly structured and must use uniform definitions and terminology. The collection of incident data requires forms or a computer, instructions on how to complete the reports so that information collected is provided in a uniform manner, and the provision of centralized long-term storage of the records.

**1-5.1 Pre-Incident Data.** Any time a member of the fire service enters a property, the opportunity exists to collect data about that property. The purpose of the visit may be for checking a pre-fire plan, a hazard reduction inspection, or a fire equipment readiness evaluation (pumps, alarms, standpipes, etc.). Many fire service agencies build and maintain a record in a file for each property within their jurisdiction. This file should contain information about the property, its location, the use of the property, the size and construction of any structures on the property, available fire protection features, and known hazards.

Other data for a pre-incident data file may be available from various municipal offices such as the assessor’s office, the building department, other inspection service offices, and the licensing board. Census identification, if available, may be added.

A well-maintained property file can assist the fire service agency in planning and prioritizing fire prevention activities, as well as providing tactical information at the time of an incident. Data collected prior to an incident can also be extremely useful during an incident investigation in understanding the condition of the property before the incident.

**1-5.2 The Incident Report.** Every time the fire service responds to an alarm, an incident occurs. The incident may be a fire, smoke scare, medical emergency, rescue, hazardous materials situation, or other need. In all cases an incident report should be filed.

The reporting agency should establish in its administrative policy whether information gathered initially at the scene and

included in reports is to be considered preliminary or final. Preliminary information is generally subject to updates and supplemental reports based on additional investigation. In this manner, the agency can clarify whether information in the report represents an initial determination or a final determination with respect to specific data.

For example, the initial determination of how a fire started and dollar loss may be adjusted upon further investigation. By establishing a policy (or even providing for the collection of multiple data elements labeled “Preliminary” and “Final”), personnel will be encouraged to complete each report without concern for whether subsequently gathered information appears to contradict preliminary determinations.

**1-5.3 Updating the Report.** Data to update the report may become available from departmental sources such as a safety officer, fire investigator, or training officer. Other sources such as hospital personnel and insurance adjusters may also yield helpful data. In both cases an updated report should be filed. Information from these reports is also useful in keeping property information current.

**1-6 Data Processing.** Once data has been received, it should be processed into a record useful for legal, planning, and management purposes. The first step involves checking the reports for accuracy and completeness and then aggregating information into a composite record. The second step involves the creation of a file consisting of data from incident records and data gathered during pre-incident inspections.

**1-7 Data Use.** Once an incident report is complete, it has many potential uses. At the least, it should meet the informational needs of all the sectors of the local fire service. These include information required both from a legal standpoint and for strategic and tactical planning. A specific use would be to provide information back to the company officers on their specific part of the protected community. A more general use would be to spot trends in fire and other emergency incidents and to provide information for program evaluation and corrective action on a chief officer level.

A small fire department may have too few incidents to provide meaningful statistical trends on a local basis. Data combined from surrounding jurisdictions may show trends or allow regional planning. As the database grows, the company officer, the fire service manager, and the chief of the department will have increasingly better information to use in managing their local problem. Regional and national agencies can combine the data and create useful, broad-based information.

Another vital function of a system is to provide input to those designing and marketing new products and equipment (potential ignition sources), and to those designing and providing interior finishes and furnishings (available fuels), so prevention efforts can focus on real fire problems. Other standard setting and enforcement agencies can use this information to evaluate the effectiveness of their work.

Each time a system of fire protection works well and the fire loss and danger are confined to a small area, a documented “success” will increase the confidence in that particular system. Conversely, each time a system of fire protection fails, as indicated by an expensive loss, injuries, or death, then this failure must be accurately recorded so that the confidence in that system of fire protection can be reduced.

On a broader scale, industry, educators, medical personnel, architects, research scientists, fire protection engineers, and fire service managers can work as a team to reduce the fire problems and other demands for emergency services.

**1-8 Standard Classifications.** To ensure the least number of errors are made when fire protection and incident data is transcribed into numerical classifications and later processed, several classification conventions have been used throughout this document.

**1-8.1 Hierarchical Structure.** Some data elements in this document (for example, “Specific Property Use”) are broken down into great detail. To encode the maximum level of detail may require the use of as many as three digits. However, some agencies may wish to incorporate less detail into their fire reports. Therefore, the classifications have been designed so that the last digit in a two-digit classification, or even the last two digits in a three-digit classification, can be dropped while retaining the broad meaning of the category. It is recommended, however, that as much detail be gathered as practical for it is very difficult to gather later.

It is also possible for a user to add one or more digits to the end of any series of classifications if they want a more detailed breakdown of a particular data element. When used, these additional digits should subdivide the primary classification as defined in this document so they can then be stripped off when the data is passed on to a state or national database without the loss of the data’s integrity.

**1-8.2 Unclassified Information.** Sometimes the subdivision of classifications may not contain a numeric classification for a specific detail that is reported for a given data element. For example, in the data element “Area of Origin,” numeric classifications “40” through “47” are provided to classify a variety of storage areas. If a storage area is not listed in these classifications, then it is “not classified above” and as a storage area would be classified as “49.” Classification “9” or ending in “9” is used throughout the document to mean that details about the object, item, or fact being classified are known but do not fit into one of the specific classifications. It is recommended that whenever a classification ending in “9” is used, descriptive information about the item that could not be classified be included on the incident report.

**1-8.3 Insufficient Information.** In some cases there will be insufficient information to use a detailed numeric classification. In such situations, the final digit is a zero, meaning “it is in this group but additional details that would allow detailed classification are not known.” The final digit is not left out. For example, in the data element “Form of Heat of Ignition,” classification “50” indicates that the heat came from an explosive or fireworks but sufficient detail is not available to allow more detailed classification. A classification of all zeros indicates the data is “undetermined or not reported.” This pattern is followed where possible throughout the document.

**1-8.4 Not Applicable.** There are some data elements in this document that may not be applicable to a given incident or to which the answer may be “none.” Where possible the numeric classification “8” has been reserved in these data elements to classify such data.

**1-8.5 “Included Are” and “Excluded Are” Statements.** Throughout the classification numbers and their descriptions for various data elements there are specific items listed that are to be classified using that number. These are prefaced by the term “Included are.” The list is not designed to be all inclusive but to ensure that those specific items are classified with that number. There may also be specific items that should not be classified using that number. These are prefaced by the term “Excluded are.” The specific item is followed by a number in parentheses that is the classification number that should be used.

**1-8.6 Agency-Specific Classifications.** Some fire service organizations may find that they have special problems not covered in sufficient detail by the data elements or the classifications described in this document. For example, a fire department may have an important fire problem in a particular type of tenement building common in its area that it wishes to record. The department may wish to add its own numeric classifications to report that problem within one of the data elements defined in this document, or it may establish its own data element to track that problem. However, the data must be collected in a manner that can be directly translated into the standard classifications before the department’s data is merged with data from other departments or contributed to a state or national database. Otherwise, the larger database will contain misclassifications leading to confusion and errors when attempts are made to analyze the data.

**1-9 Nonclassified Data.** Some data elements do not require classification to achieve uniformity. These include:

- Dates and times
- Numeric information
- Text

Careful consideration should be given to the methods used to integrate these kinds of informational elements into any reporting system.

**1-9.1 Dates and Times.** There are many points in time in the course of an incident. In a fire, for example, these include ignition, detection, alarm, dispatch, arrival on the scene, agent application, blackout, and leaving the scene. To avoid ambiguity and to provide additional useful information, events selected for data collection should be accompanied by data elements that relate each event to the date and time it occurs. Dates are generally recorded using the numeric designation for month, day, and year, reserving two digits for each (e.g., November 21, 1995 would be recorded as 11/21/95). Automated systems should store four digits for year to reduce date ambiguity after 1999.

Time of day is generally recorded in military time (e.g., 1:00 p.m. would be recorded as 1300) to avoid the need for the additional am/pm designation. Recognizing that many events can cross date boundaries, a date should accompany every recorded time. Midnight should be recorded as 0000 and is the beginning of a new day.

**1-9.2 Numeric.** Many data elements can be recorded directly with numbers (for example, number of engines that responded or number of persons injured). Numbers are used whenever it is anticipated that the data might later be summarized, averaged, or otherwise processed.

Three aspects of numeric data elements merit further consideration. First, unless it is obvious from the context or the name of the data element, all numbers should be labeled with units. For example, the spill was 50 gallons; the temperature at ground level was 30° Celsius. Where the number can potentially have both a plus and minus value, the person reporting the data should specifically report the sign.

Second, consider the level of desired precision. While the “Number of personnel that responded” is obviously an integer, “Acres burned” is often reported to the nearest tenth of an acre. To accommodate commonly encountered fractions (e.g.,  $\frac{1}{4}$  or 0.25 acre), two digits beyond the decimal point may be provided. The level of precision will vary by data element but should be made clear to those who record the data.

Third, special consideration should be given to cases in which numeric information is not available or is not reported. These situations must be clearly distinguished from a reported numeric value of zero. Responding to an incident with zero personnel has a different meaning than responding to an incident with an unreported number of personnel. If both are recorded as zero without further distinction, incorrect conclusions may be drawn from aggregated incident data (e.g., sums and averages).

Note that some data elements contain only digits but should not be considered numeric. In the case of zip codes, for example, the data element should be treated as text (below) because (a) no useful arithmetic calculations can be performed with zip codes, and (b) leading zeros that have meaning in zip codes have no significance in numeric information and are usually eliminated.

**1-9.3 Text.** Useful incident data that cannot be realistically classified or reduced to numbers must be entered as text. These elements include not only data such as names and addresses, but also text that supplements coded data with further details. For example, in the case of “Equipment Involved in Ignition,” the classifications that designate the type of equipment involved can be supplemented with text that specifies the make and model of the equipment. This can be useful in equipment recalls at the federal level.

## Chapter 2 Glossary and Abbreviations

**2-1 Glossary.** The terminology used in this document provides a common language for recording fire service data. The following terms are used as defined and discussed below.

**Alarm.** Any notification made to the fire department that a situation exists or may exist that requires a response.

**Area of Origin.** The use of the room or area within the property where the fire originated. (*See Section 6-3.*)

**Automatic.** As applied to fire protection devices, a device or system providing an emergency function without the necessity of human intervention.

**Backfire.** A fire set along the inner edge of a fire control line to consume the fuel in the path of a wildland fire or change the direction of force of the fires convection column. Doing this on a small scale and with closer control, in order to consume patches of unburned fuel and aid control line construction, is known as “burning out.”

**Building.** A structure enclosed with walls and a roof and having a defined height.

**Building Fire.** See Structure Fire.

**Burning.** The process of self-perpetuating combustion, with or without an open flame. Smoldering is burning.

**Casualty (Incident).** A person who is injured or killed as a result of responding to or handling an incident or who is the reason for the incident.

**Casualty (Fire).** A person who is injured or killed at the scene of a fire. (Includes injuries or deaths from natural or accidental causes sustained while involved in the activities of fire control, rescue attempt, or escaping from the dangers of the fire.)

**Census Data.** Demographic population data available by statistical areas from a governmental agency.

**Char.** Material that has been partially burned on the exterior of the object and has a blackened, carbonized appearance.

**Combustible.** A material or structure that will release heat energy on burning.

**Combustible Liquid.** Any liquid having a flash point at or above 100°F (37.8°C) (closed cup).

**Complex.** See General Property Use.

**Confine a Fire.** To restrict the fire within determined boundaries established either prior to the fire or during the fire. Wildland suppression action may be minimal and limited to surveillance under appropriate conditions.

**Contain a Fire.** To take suppression action as needed that can reasonably be expected to check the fire’s spread under prevailing conditions.

**Contents Fire.** See Structure Fire.

**Emergency Scene.** The area encompassed by the incident and the surrounding area needed by the emergency forces to stage apparatus and mitigate the incident.

**Explosion.** Violent bursting caused by either a combustion process or an overpressure condition. Typical combustion processes include ignition and burning of combustible gas, dust, or flammable vapor mixture. These are technically “fires.” Typical overpressure conditions include steam pressure, chemical reactions, and compressed gas container rupture. These are technically not “fires.”

**Exposure.** Any fixed or mobile property threatened by a fire or other hazard in any other fixed or mobile property.

**Exposure Fire.** A fire in a building, structure, vehicle, or outside property resulting from a fire outside that building, structure, vehicle, or outside property. A fire spreading between occupancies within a single building is not an exposure fire. A fire that spreads from one fire jurisdiction to another is also considered an exposure fire.

**Exposure (Human).** Potential for injury or death to humans.

**Fatality.** An injury that is fatal or becomes fatal within one year of the incident.

**Fire.** Any instance of destructive and uncontrolled burning, including explosion, of combustible solids, liquids, or gases. Fire does not include the following, except where they cause fire or occur as a consequence of fire:

- (a) Lightning or electrical discharge.

(b) Rupture of a steam boiler, hot water tank, or other pressure vessel due to internal pressure and not to internal combustion.

(c) Explosion of munitions or other detonating material.

(d) Accident involving ship, aircraft, or other vehicle.

(e) Overheat condition.

**Fire Area (Structure).** The space within a structure bounded by fire division assemblies (two-hour fire rating or greater).

**Fire Area (Wildland).** The area within wildfire perimeter control lines.

**Fire Blackout.** That point in time when there is no longer any evidence of open flame or glow of burned material.

**Fire Contained.** That point in time when fire spread is stopped but the fire is not necessarily under control.

**Fire Control Line.** Comprehensive term for all constructed or natural barriers and treated fire edges used to control a fire.

**Fire Damage.** The total damage to a building, structure, vehicle, natural vegetation cover, or outside property resulting from a fire and the act of controlling that fire. Included are smoke, water, backfires, fire breaks, and fire control damage.

**Fire Division Assembly.** A “fire-rated assembly” that has a fire resistance rating of two test hours or longer.

**Fire Division Compartment.** A complete compartment surrounded on all sides by fire-rated assemblies with a two hour fire protection rating or more. Large buildings often contain many fire division compartments, each containing many rooms.

**Fire Extinguished.** That point in time when there is no longer any abnormal heat or smoke being generated in material that was previously burning.

**Fire Ground.** See Emergency Scene.

**Fire-Rated Assembly.** An assembly (e.g., wall, floor, or roof) that has been tested using standard test methods and has received at least a 60-minute fire resistance rating.

**Fire-Rated Compartment.** A complete compartment surrounded on all sides by fire-rated assemblies having a 60-minute fire resistance rating or more.

**Fire Service Personnel.** All employees, whether career or volunteer, of a fire department who are assigned or may be assigned to perform duties at emergency incidents.

**Fire Under Control.** (1) That point in time when a fire is sufficiently surrounded and quenched so that in the judgment of the commanding officer it no longer threatens destruction of additional property. (2) In wildfire, that point in time when a control line is around a fire, any spot fires therefrom, and any interior islands to be saved. Any unburned area adjacent to the fire side of the control lines are burned out, and all hot spots that are immediate threats to the control line are cooled down, until the lines can reasonably be expected to hold under foreseeable conditions.

**Fire Wall.** A fire division assembly of three test hours or longer fire resistance rating, built to permit complete burnout and collapse of the structure on one side without fire extension through the fire wall or collapse of the fire wall.

**Fixed Object.** An object, device, or appliance that is fastened or secured at a specific location, e.g., a steam radiator.

**Fixed Property Use.** See Specific Property Use.

**Flames.** Products of combustion that are illuminated by the heat of combustion and accompany the burning of most materials in normal atmospheres.

**Flammable Liquid.** Any liquid having a flash point below 100°F (37.8°C) (closed cup) and having a vapor pressure not exceeding 40 psia (2068 mm Hg) at 100°F (37.8°C).

**Gas.** A material that has a vapor pressure exceeding 40 psia (2068.6 mm) at 100°F (37.8°C). (Gasoline is a liquid, not a gas.)

**General Property Use.** The actual general (overall) use of land or space under the same management, ownership, or within the same legal boundaries; including any structures, vehicles, or other appurtenances thereon. (*See Section 4-6.*)

**Grade.** Reference plane representing the elevation of finished ground level adjoining the building at the main entrance.

**Hazardous Material.** Any material that is an air-reactive material, flammable or combustible liquid, flammable gas, corrosive material, explosive material, organic peroxide, oxidizing material, radioactive material, toxic material, unstable material, or water-reactive material, and any substance or mixture of substances that is an irritant or a strong sensitizer or that generates pressure through exposure to heat, decomposition, or other means.

**Heat of Ignition.** The heat energy that brings about ignition. Heat energy comes in various forms and usually from a specific object or source. Therefore, the heat of ignition is divided into two parts: “equipment involved in ignition” and “form of heat of ignition.” (*See Sections 6-4 and 6-5.*)

**Ignition.** The physical and chemical processes involved in reaching a point of self-perpetuation of fire whether or not there is an open flame.

**Ignition Factor.** The condition or situation that allowed a heat source and a combustible material to combine to initiate a fire. (*See Section 6-7.*)

**Incident.** An event to which the reporting agency responds or should have responded. Included are “walk-ins” treated at the station. An incident may have more than one response. A rekindle is a separate incident.

**Incident Record.** The official file on an incident.

**Incident Report.** A document prepared by fire department personnel about a particular incident. For understanding and legal purposes, this report should be in their own words. For summarization purposes, the information on this report can be classified into broad categories. The incident report is always part of the incident record or file.

**Injury.** Physical damage to a person suffered as the result of an incident that requires (or should require) treatment by a practitioner of medicine, a registered EMT, or a paramedic within one year of the incident (regardless of whether treatment was actually received) or that results in at least one day of restricted activity immediately following the incident.

**Liquid.** A material that has a vapor pressure not exceeding 40 psia (2068.6 mm) at 100°F (37.8°C).

**Material First Ignited.** The combustible that is first set on fire by the heat of ignition. To be meaningful, both a type of material and a form of material should be identified. (*See Section 6-6.*)

**Mobile Property Type.** Property that was designed to be movable whether or not it still is, e.g., vehicles, ships, and airplanes. (*See 4-8.3.*)

**Mop-up.** The act of making a fire scene safer after the fire has been controlled, such as extinguishing or removing burning material along or near the control line, felling snags, trenching logs to prevent rolling. For structure fires see Overhaul.

**Non-Fire Service Personnel.** All persons involved with an incident who are not fire service personnel. Included are police, utility company employees, non-fire service medical personnel, and civilians.

**Not Occupied.** An area with no persons present; contents or equipment present indicates the structure is not vacant.

**Occupancy.** The purpose for which a building or portion thereof is intended to be used. The specific property use as it pertains to a building is the occupancy.

**Occupied.** An area with persons present. A hotel (general property use) could be occupied, but the restaurant (specific property use) not occupied; likewise, the restaurant could be occupied but its storeroom (area of origin) not occupied.

**Overhaul.** The act of making a fire scene safe after it is controlled, such as extinguishing or removing burned material, checking inside walls and hidden spaces, etc. For wildland fires, see Mop-up.

**Overheat.** Destruction of material by heat without self-sustained combustion. Removal of the heat source will stop the destruction. Overheat is the stage before ignition.

**Portable Object.** An object, device, or appliance that can readily be moved from one place to another, e.g., a vacuum cleaner.

**Prescribed Fire.** Controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions that allow the fire to be confined to a predetermined area and at the same time to produce the intensity of heat and rate of spread required to attain planned resource management objectives.

**Property.** A thing of value. Specific (fixed) property refers to those things that make up the earth's surface, i.e., water, land, roadways, structures, and buildings. Mobile property refers to those things that normally move in relation to the earth's surface, i.e., ships, airplanes, trains, trucks, and automobiles.

**Property Inventory.** Information known about a property before an emergency occurs. This knowledge is in two parts: that which is general in character and has to do with external features (such as location, water supply, and construction), and that which is specific in character relating to internal features (such as interior finish, vertical openings, or suppression systems).

**Property Use.** The use to which a property is put. A building, for example, could serve as a garage or a hospital or a department store. The use of property does not define any of the other important fire-related details of a property such as access, ownership, size, internal weaknesses in fire defense, or construction.

**Rekindle.** The redevelopment of a fire after it was thought to have been extinguished by the original fire service response. Fire service response to a rekindle should be treated as a separate incident.

**Reportable Fire.** Any unfriendly, hostile fire that comes to the attention of an agency keeping fire records. Included are fires that may be discovered in progress or discovered after extinguishment.

**Response.** The deployment of an emergency service resource to an incident.

**Room.** The space or area bounded by walls. The walls may be fire rated and impede fire spread or not fire rated (e.g., mesh screen), which may impede exiting of personnel.

**Scorch.** Discoloring (browning or blackening) of a material, a characteristic of the overheat condition. Removal of the heat source will stop the destruction.

**Smoldering.** Self-sustaining combustion of a material without any flame evident.

**Specific Property Use.** The actual use to which a specific space, structure, or portion of a structure is put by the owner, tenant, or occupant of the space. The specific property use should be one of the following:

(a) The principal use of the structure or outside area if it is used for a single purpose.

(b) The principal use of a fire division compartment in a structure if the structure is used for multiple purposes.

(c) The principal use to which a section of a structure, a space, or an area, whether inside or outside, is put by the owner, tenant, or business occupying that space or area when there are multiple specific uses, multiple tenants, or multiple businesses using the same general property.

**Stationary Object.** Any object, device, or appliance that is not fastened but that is not readily moved from one place to another in normal use, e.g., a refrigerator.

**Story.** That portion of a building between the upper surface of any floor and the upper surface of the floor next above, except that the topmost story is that portion of a building between the upper surface of the topmost floor and the upper surface of the roof deck above.

**Structure.** An assembly of materials forming a construction for occupancy or use to serve a specific purpose. This includes, but is not limited to, buildings, open platforms, bridges, roof assemblies over open storage or process areas, tents, air-supported structures, and grandstands.

**Structure Fire.** Any fire inside, on, under, or touching a structure. For example, an automobile on fire in a garage or tunnel, food burning on the stove, or fire at a leaking flange in a refinery tower are all structure fires.

**Toxic Material.** Any material that may constitute a hazard to life or health, either temporary or permanent, from exposure by contact, inhalation, or ingestion.

**Vacant.** No furnishings or equipment present.

**Wildfire.** Any uncontrolled fire burning in wildland vegetation including any structures or other improvements thereon.

**Wildland.** Land in an uncultivated, more or less natural state and covered by timber, woodland, brush, and/or grass.

## 2-2 Abbreviations for States and Provinces.

**2-2.1 States.** The following table is consistent with the Federal Information Processing Standard (FIPS).

Alabama	01	AL
Alaska	02	AK
Arizona	04	AZ
Arkansas	05	AR
California	06	CA
Colorado	08	CO
Connecticut	09	CT
Delaware	10	DE
District of Columbia	11	DC
Florida	12	FL
Georgia	13	GA
Hawaii	15	HI
Idaho	16	ID
Illinois	17	IL
Indiana	18	IN
Iowa	19	IA
Kansas	20	KS
Kentucky	21	KY
Louisiana	22	LA
Maine	23	ME
Maryland	24	MD
Massachusetts	25	MA
Michigan	26	MI
Minnesota	27	MN
Mississippi	28	MS
Missouri	29	MO
Montana	30	MT
Nebraska	31	NE
Nevada	32	NV
New Hampshire	33	NH
New Jersey	34	NJ
New Mexico	35	NM
New York	36	NY
North Carolina	37	NC
North Dakota	38	ND
Ohio	39	OH
Oklahoma	40	OK
Oregon	41	OR
Pennsylvania	42	PA
Rhode Island	44	RI
South Carolina	45	SC
South Dakota	46	SD
Tennessee	47	TN
Texas	48	TX
Utah	49	UT
Vermont	50	VT
Virginia	51	VA
Washington	52	WA
West Virginia	54	WV
Wisconsin	55	WI
Wyoming	56	WY

## 2-2.2 U.S. Territories and Possessions.

American Samoa	60	AS
Canal Zone	67	CZ
Guam	66	GU
Federated States of Micronesia	64	FM
Marshall Islands	68	MH
Northern Mariana Islands	69	MP
Palau	70	PW
Puerto Rico	72	PR
US Minor Outlying Islands	74	UM
Virgin Islands	78	VI

**2-2.3 Canadian Provinces.** The following list of abbreviations is from Canada Post.

Alberta	AB
British Columbia	BC
Manitoba	MB
New Brunswick	NB
Newfoundland	NF
Nova Scotia	NS
Ontario	ON
Prince Edward Island	PE
Quebec	PQ
Saskatchewan	SK
Yukon	YU
Northwest Territory	NT

**2-2.4 Mexico.** Where it is necessary to record addresses in Mexico, the abbreviation "MX" should be used in place of a state abbreviation.

**2-3 Abbreviations for Street Types.** The following list of abbreviations is from the U.S. Postal Service.

Word	Abbreviation
Alley	ALY
Annex	ANX
Arcade	ARC
Avenida	AVE
Avenue	AVE
Bayou	BYU
Beach	BCH
Bend	BND
Bluff	BLF
Bottom	BTM
Boulevard	BLVD
Branch	BR
Bridge	BRG
Brook	BRK
Burg	BG
Bypass	BYP
Calle	CLL
Caminito	CMT
Camino	CAM
Camp	CP
Canyon	CYN
Cape	CPE
Causeway	CSWY

Word	Abbreviation	Word	Abbreviation
Center	CTR	Islands	ISS
Cerrada	CER		
Circle	CIR	Junction	JCT
Circulo	CIR		
Cliffs	CLFS	Key	KY
Club	CLB	Knolls	KNLS
Corner	COR		
Corners	CORS	Lake	LK
Course	CRSE	Lakes	LKS
Court	CT	Landing	LNDG
Courts	CTS	Lane	LN
Cove	CV	Light	LGT
Creek	CRK	Loaf	LF
Crescent	CRES	Locks	LCKS
Crossing	XING	Lodge	LDG
		Loop	LOOP
Dale	DL		
Dam	DM	Mall	MALL
Divide	DV	Manor	MNR
Drive	DR	Meadows	MDWS
		Mill	ML
Entrada	ENT	Mills	MLS
Estate	EST	Mission	MSN
Expressway	EXPY	Mount	MT
Extension	EXT	Mountain	MTN
Fall	FALL	Neck	NCK
Falls	FLS		
Ferry	FRY	Orchard	ORCH
Field	FLD	Oval	OVAL
Fields	FLDS		
Flat	FLT	Park	PARK
Ford	FRD	Parkway	PKY
Forest	FRST	Paseo	PSO
Forge	FRG	Pass	PASS
Fork	FRK	Path	PATH
Forks	FRKS	Pike	PIKE
Fort	FT	Pines	PINES
Freeway	FWY	Place	PL
		Placita	PLA
Gardens	GDNS	Plain	PLN
Gateway	GTWY	Plains	PLNS
Glen	GLN	Plaza	PLZ
Green	GRN	Point	PT
Grove	GRV	Port	PRT
		Prairie	PR
Harbor	HBR		
Haven	HVN	Radial	RADL
Heights	HTS	Ranch	RNCH
Highway	HWY	Rancho	RCH
Hill	HL	Rapids	RPDS
Hills	HLS	Rest	RST
Hollow	HOLW	Ridge	RDG
		River	RIV
Ilse	ILSE	Road	RD
Inlet	INLT	Row	ROW
Island	IS	Run	RUN

Word	Abbreviation
Shoal	SHL
Shoals	SHLS
Shore	SHR
Shores	SHRS
Spring	SPG
Springs	SPGS
Spur	SPUR
Square	SQ
Station	STA
Stravenue	STRA
Stream	STRM
Street	ST
Summit	SMT
Terrace	TER
Trace	TRCE
Track	TRAK
Trafficway	TRFY
Trail	TRL
Trailer	TRLR
Tunnel	TUNL
Turnpike	TPKE
Union	UN
Valley	VLV
Vereda	VER
Viaduct	VIA
View	VW
Village	VLG
Ville	VL
Vista	VIS
Walk	WALK
Way	WAY
Wells	WLS

## Chapter 3 Incident Identification and Location

**3-1 Purpose and Application.** The purpose of the data elements identified by this chapter is to provide sufficient identification information to uniquely identify each incident response.

These data elements collect information needed to uniquely identify an incident response by a fire agency. These elements include information needed by the fire agency to uniquely identify the incident within fire department files, to identify the appropriate district, shift, and officer responsible for the incident. This chapter also includes time related information used to identify when the incident began and ended, as well as current weather information and incident severity information.

This section contains data elements that permit the fire department to identify and analyze incident patterns. The data elements collect information that identifies an incident as a unique occurrence in time. The section also contains information of fire department response identification, i.e.,

which shift responded, the number of alarms, incident commander, and so forth.

The data elements contained in this chapter may be used for both pre-incident and post-incident data collection efforts.

**3-2 Limitations.** The data elements used for the identification of the property location and type are included in Chapter 4, Property Use.

**3-3 Incident Number.** The incident number is a unique (normally sequential) number assigned to an incident so that no two incidents that are the responsibility of the fire department in a given year have the same incident number. The incident number is used to link together all reports and materials concerning the incident.

**3-4 Exposure Number.** When multiple reports are filed for a single incident, a method of numbering those reports should be used so the information for each property can be associated with the base report and summarized as necessary. Care should be taken with any automated processing of data from multiple report incidents that the multiple reports not be treated as multiple incidents. A convenient means should be available to summarize data as necessary from the multiple reports (e.g., summary of casualties, dollar loss, etc.).

**3-5 Shift.** Shift is the designation of the shift on-duty or on-call when the incident was reported and that responded to the incident. If the incident was of such duration that a shift change occurred during the incident, the time the change occurred and the new shift designation may also be valuable information.

**3-6 Number of Alarms.** The number of alarms transmitted is an indicator of the severity of an incident and serves as a quick indicator of the scope of the incident. It should represent the total number of alarms sounded for this incident. Staffing patterns and requirements can also be assessed through analysis of this element. This information is most useful by a local department, so local alarm definitions should be used. Where multiple alarms are sounded, the time and date of each subsequent alarm would also be important information.

**3-7 Incident Events.** Many events that occur during an incident are critical to understanding fire growth and the actions to manage the incident. Because there are so many different events, those events selected for data collection should include both the date and time and a clear label to identify the event. By recording the actual date and time, lapse time between events can be calculated including those that span two or more days. This method helps avoid the confusion that can arise where direct entry of elapsed minutes or hours are recorded. Errors associated with direct entry of elapsed time often arise from an unclear point of reference. For example, the elapsed time of an incident could be calculated from the time of ignition, alarm, dispatch, or arrival on the scene, depending upon the use to which the information will be put. By recording actual dates and times of discrete events, this ambiguity can be avoided.

Event chronologies generally move from one event to another at different rates. Some incidents are over quickly after discovery, while other incidents may last many days, weeks, or even years. Each event is a snapshot in time. A typical fire sequence flows from its ignition and detection; through alarm, dispatch, and response; to agent application, containment, control, and blackout; and finally incident closure. Other incidents typically flow from their start and discovery;



through alarm, dispatch, and response; to initial action, control, and incident closure. These chronologies should apply equally well to a small structure fire, a medical emergency, a wildland fire, or a hazmat incident.

**Dates.** Dates should be recorded using the numeric designation for month, day, and year, reserving two digits for each (e.g., November 21, 1993 would be recorded as 11/21/93). Recommended practice for automated systems is to store four digits for year.

**Clock Time.** Time of day should be recorded using the 24-hour military time, which includes hours and minutes without punctuation. Midnight is recorded as 0000, 7:00 a.m. as 0700, 1:00 p.m. as 1300, and one minute before midnight as 2359. If times are recorded to seconds, add two digits for seconds after minutes.

**3-7.1 Event Start Time.** The time of ignition or start of the event in the incident chronology. It is often difficult to determine the exact time because of prolonged periods of smoldering or lack of witnesses to the event. However, an effort should be made to estimate the time as closely as possible.

If the event is a fire, ignition occurs the moment heat or overheat reaches the point of self-perpetuated combustion in the combustible ignited whether or not there is open flame. The time of ignition should be recorded using actual clock time. The time the fire burned before it was detected is important in understanding the growth of the fire and the effectiveness of detection devices, if present. The public fire service cannot initiate action to suppress the fire until it has been detected and reported. The longer the fire burns before detection, the greater the damage before intervention for suppression.

If the event is not a fire, the event is the initial step in the chronology. For example, start time could be when two automobiles collide, a hazardous material release occurs, or a trench collapses on a worker.

**3-7.2 Discovery or Detection Time.** Detection occurs the moment a person senses the danger or incident or an automatic detector closes its contacts. This time may be considerably after ignition. Discovery time is sometimes the first reliable time in the incident chronology.

**3-7.3 Report (Alarm) Time.** Report time occurs when the dispatch or alarm center responsible for dispatching the fire department resources first learns of the fire or other incident. The alarm may be transmitted to the alarm center in person, by telephone, radio, a direct wired signal, or other means. Report time is often the first reliable time in the incident chronology.

**3-7.4 Dispatch Time.** The time when a fire service resource is notified to respond to an alarm.

**3-7.5 Enroute Time.** The time when the resource or apparatus with the crew aboard starts its response to the incident.

**3-7.6 Arrival Time.** The time when the unit arrives at the scene of an incident. The time of arrival is useful in analysis of department response times, which can be used to assist in determining placement of fire stations or establishing response policies. The time of arrival may often be obtained from the alarm center.

Some fire services choose to track the dispatch time, arrival time, and in-service time (ready to handle another alarm) for each piece of fire apparatus dispatched to the incident. This

allows a detailed analysis of response times and apparatus utilization.

**3-7.7 First Action Time.** The beginning of control or mitigation activities. Many activities may occur after arrival on-scene, including search, rescue, set-up, locating a fire, or building wildfire lines.

**3-7.8 Agent Application Time.** The agent application time is the moment the extinguishing agent first contacts the flames.

**3-7.9 Containment Time.** The time when control lines or natural barriers surround a fire or the fire spread is checked. There may be significant hot spots within the perimeter yet to be extinguished.

**3-7.10 Control Time.** The time when the fire is sufficiently surrounded and quenched that, in the judgment of the commanding officer, it no longer threatens further spread or destruction of additional property. This is also referred to as knock-down time.

**3-7.11 Blackout Time.** The point in time when there is no open flame or glow of burned material. This is also referred to as "fire out" time.

**3-7.12 Scene Release Time.** The time when all actions by the fire service have ceased and the scene has been released to the property owner, resident, or other entity. This data element can also be used to calculate total amount of time fire companies are left at the scene on "fire watch" after the control of the property has been turned back to the owner.

**3-7.13 Resource In-Service Time.** This is the time when a specific resource is again ready to respond to an alarm.

**3-8 Day of Week.** The day of the week is useful to track incident patterns. Day of week can be calculated from the event date. However, the classifications below should be used if day of week is recorded as a separate data element.

1. Sunday
2. Monday
3. Tuesday
4. Wednesday
5. Thursday
6. Friday
7. Saturday

**3-9 Incident Location.** The incident location is useful to understand the geographic relationships between where incidents occur, fire service bases, and important locations within the community or area. Analysis of past incident locations by incident type can provide valuable information to fire service planners, prevention personnel, inspectors, and operations.

#### **3-9.1 Property Address.**

**3-9.1.1 Street Address.** The address of the property establishes its legal location in the community and is generally the basis of identification of the property. It provides the capability to identify other data concerning the property that may be helpful in understanding the property. Where the property has been subdivided and has multiple tenants or areas, it is often important to identify a suite, room, apartment number, or specific building as part of the address.

**3-9.1.2 City, State, and Postal (Zip) Code.** Where the data collected will be used outside the local area, or the area served covers multiple communities, it is important to record the city,

state, and zip code of the property. (See Section 2-2 for state abbreviations.) Zip code should be recorded for all incidents to allow linking incident data with demographic data available by zip code.

**3-9.2 Geographical Coordinates.** Street address, city, state, and zip code are useful for analysis in a local area, but the location data does not easily allow spatial analysis (distances between incidents). Latitude and longitude coordinates work anywhere in the world if the hemisphere is defined. Fire service agencies that collect data in this form should carefully consider accuracy needs. One degree at 45 degrees north latitude (for example, the latitude of the Wyoming/Montana border, Minneapolis, or the Vermont/Canadian border) is approximately sixty statute miles, one minute is approximately one statute mile, and one second is approximately 88 feet (27 meters). Some wildland and rural fire service agencies collect latitude and longitude to  $1/10$  minute (6 seconds), which is approximately 528 feet.

**3-9.2.1 Latitude.** Latitude lines run east/west parallel to the equator. Values range from 0 degrees at the equator to 90 degrees at the north and south poles. The United States and Canada are in the northern hemisphere. Minutes and seconds range from 0 to 59.

**3-9.2.2 Longitude.** Longitude lines run north/south, are parallel at the equator, and converge at the poles. Values range from 0 degrees at Greenwich, England (near London at the Royal Naval Observatory) to 180 degrees at the International Date Line west of Hawaii. Most of the United States and all of Canada are in the western hemisphere. Minutes and seconds range from 0 to 59.

**3-9.3 Public Land Survey System.** The Public Land Survey System was established in the United States by the Land Ordinance of 1785. The surveys cover 30 states; the original 13 colonies, Kentucky, Tennessee, Maine, Vermont, West Virginia, Texas, and Hawaii use other survey systems.

**3-9.3.1 Township.** Townships are numbered north and south of the principal base line. Suggested coding is to use a five character field. The first three digits are the township number, and the fourth digit indicates a full or partial township (0 = full, 1 =  $1/4$ , 2 =  $1/2$ , and 3 =  $3/4$ ). The fifth character (N or S) indicates direction from the base line.

**3-9.3.2 Range.** Ranges are numbered east and west of the principal meridian. Suggested coding is to use a five character field. The first three digits are the range number and the fourth digit indicates a full or partial range (0 = full, 1 =  $1/4$ , 2 =  $1/2$ , and 3 =  $3/4$ ). The fifth character (E or W) indicates direction from the principal meridian.

**3-9.3.3 Section.** Sections are numbered 1-36 beginning in the northeast corner for all but the very earliest principal meridians. Sections 1-6 are the northern most tier and are numbered east to west. Sections 7-12 are the next tier south of the first tier and are numbered west to east. The remaining sections follow the same pattern. Each section is nominally 640 acres, although some sections vary from the standard.

**3-9.3.4 Subsection.** Sections can be subdivided into successive quarters and described as the NE quarter, NW quarter, SE quarter, and SW quarter (each approximately 160 acres). Each quarter can be quartered again to describe 40-acre parcels. For example, the SE/4 of the NW/4 would be the 40-acre

parcel NW of the section center (read small parcel to large parcel).

**3-9.3.5 Principal Meridian.** There are 45 principal meridians defined in the United States. The codes below can be used to identify the principal meridian.

This table defines the code, meridian name, abbreviation, and states included for the principal meridians in the United States. The Public Land Survey System (PLSS) was established by the Land Ordinance of 1785. The survey covers 30 states. These codes were defined by the Bureau of Land Management, U.S. Department of Interior.

Code	Meridian Name	Abbr.	States
01	First Principal	1	IN, OH
02	Second Principal	2	IL, IN
03	Third Principal	3	IL
04	Fourth Principal	4	IL, MN, WI
05	Fifth Principal	5	AR, MN, MO, ND, SD
06	Sixth Principal	6	CO, KS, NE, SD, WY
07	Black Hills	BH	SD
08	Boise	BO	ID
09	Chickasaw	CHI	MS
10	Choctaw	CHO	MS
11	Cimarron	CIM	OK
12	Copper River	CR	AK
13	Fairbanks	FB	AK
14	Gila and Salt River	GSR	AZ
15	Humboldt	HUM	CA
16	Huntsville	HUN	AL
17	Indian	IN	OK
18	Louisiana	LOU	LA
19	Michigan	MI	MI, OH
20	Principal	MT	MT
21	Mt. Diablo	MD	CA, NV
22	Navajo	NAV	AZ
23	New Mexico	NM	CO, NM
24	St. Helena	SH	LA
25	St. Stephens	SS	AL, MS
26	Salt Lake	SL	UT
27	San Bernardino	SB	CA
28	Seward	SEW	AK
29	Tallahassee	TAL	AL
30	Uintah	UIN	UT
31	Ute	UTE	CO
32	Washington	WA	MS
33	Willamette	WIL	OR, WA
34	Wind River	WR	WY
35	Ohio	OHI	OH
36	Great Miami River	GMR	OH
37	Muskingum River	MUS	OH
38	Ohio River	OR	OH
39	First Scioto River	SC1	OH
40	Second Scioto River	SC2	OH
41	Third Scioto River	SC3	OH
42	Ellicotts Line	ELL	OH
43	12 Mile Square	12M	OH
44	Kateel River	KR	AK
45	Umiat	UMI	AK

**3-9.4 Census Tract.** The census tract number is a six-digit number assigned by the Bureau of the Census, U.S. Department of Commerce, that identifies an area of land within the United States about which there is census data available. Maps that outline the boundaries of census tracts are available from the Bureau of the Census. If the data is part of a regional database, the census county code should also be reported. The census county code or the Federal Information Processing Standard (FIPS) county code are the same and can be obtained from the same source as census tract information.

**3-9.5 Local Identification.** There are a number of property identification data elements that can be useful at the local level either for identifying the location of the property or specific buildings on the property or for assigning responsibilities for the property with the fire department.

**3-9.5.1 District.** District is the designation of the fire department company, administrative district, or inspection district in which the response occurred. The district data element is useful to break-down incidents into subdivisions of a fire department's geographical area. These subdivisions should be designated to allow tying fire experience to code enforcement. If no districts are designated by the fire department, appropriate police districts or other existing subdivisions may be used.

If districts are recorded and responses are made to areas outside the fire department's area of responsibility or jurisdiction, a special district designator should be used to indicate the jurisdiction where the incident occurred.

**3-9.5.2 Demand Zone.** Demand zones or community analysis areas (CAA) are geographically homogeneous areas within which a particular type of demand is placed on the fire service. Demand zones come from the master planning methodology.

**3-9.5.3 Parcel Number.** Many communities maintain parcel numbers for each piece of property within the community. This number may be established by the assessor's office or the planning department. Use of this number allows this record to be linked with other files of data in the community concerning the property.

**3-9.5.4 Property Number.** Each property should be assigned a unique number that will not change even though the occupancy or nature of the property changes over a period of time. These numbers can be assigned on a geographical basis or can be randomly assigned, but care should be taken to ensure that no two properties have the same property number. A property number can be used to tie together information from different sources or databases.

**3-9.5.5 Structure Number.** If there is more than one structure on the property, each structure should be uniquely identified by a different structure number. However, the property number should remain the same for all structures on the same property.

**3-10 Business, Tenant, or Occupant.** The name of the business, tenant, or occupant of the space within the property should always be recorded. This allows for the identification of the parties responsible for the space and information concerning activity in the space whether during code enforcement activity or in investigating an incident. If the principal address of the business or tenant is not the property address, the address where the business or tenant can normally be contacted should be recorded. Likewise a telephone number for the business or tenant should be recorded.

**3-11 Property Owner.** The identification of the owner of the property is important in identifying who has the legal responsibility for the property. Whether during code enforcement activity or in investigating an incident, it is important to identify the owner and to record the owner's address and telephone number so he or she can be contacted in an emergency.

### **3-12 Fire Service Personnel.**

**3-12.1 Officer in Charge.** The name of the officer on-scene and in charge of the incident is useful to establish who had responsibility for the fire department's activities at the incident. It also identifies the individual who may have additional information about the incident if further investigation is conducted.

**3-12.2 Member Making Report.** The name of the fire department person who completed the incident report is useful in determining who collected the data and made the decisions on what information to record. If future investigation of the incident is needed, the member making the report identifies a person who may have additional information about the incident.

## **Chapter 4 Property Use**

**4-1 Purpose and Application.** The purpose of the data elements outlined in this chapter is to provide a uniform way to identify property and how it is used. These data elements can be used to identify property, whether fixed or mobile in both a pre-incident and a post-incident data system. Pre-incident data collection might be for property inventory files, code enforcement files, pre-fire plan files, or any application requiring the identification and use of property.

**4-2 Limitations.** The data elements in this chapter classify the use of the property only. This corresponds in many situations to the occupancy of a structure or portion thereof. They do not identify the configuration of buildings or other important details of a property such as access, ownership, size, or internal weaknesses in construction or fire defenses. For example, property used for storage of a product should be shown for that use whether the storage is inside or outside.

### **4-3 Definitions.**

**General Property Use.** The current general (overall) use of land or space under the same management, ownership, or within the same legal boundaries, including any structures, vehicles, or other appurtenances thereon.

**Mobile Property Type.** Property that was designed to be movable in relation to fixed property whether or not it still is.

**Specific Property Use.** The actual use to which a specific space, structure, or portion of a structure is put by the owner, tenant, or occupant of the space.

**4-4 Discussion and Examples.** It is often desirable to link the specific use of a property or a portion thereof to the overall use of the property. This is accomplished by reporting of the general property use and specific property use as complementary data elements that together show the property use. A restaurant in a hotel is different than a freestanding restaurant surrounded by a parking area.

When a piece of mobile property is involved, the data element mobile property type adds further definition to the understanding of the use of the property by identifying the type of vehicle, vessel, or equipment.

The following examples show the relationship between general property use and specific property use for a few typical situations where no mobile property is involved.

Example	Classification
A clothing store in a shopping mall	
General property use (shopping mall)	51
Specific property use (clothing store)	521
A chapel at a university	
General property use (university)	22
Specific property use (chapel)	131
A railroad bridge	
General property use (railroad)	95
Specific property use (bridge)	921
A children's playhouse behind a dwelling	
General property use (residential)	41
Specific property use (playhouse)	491

Example	Classification
A barn on a farm	
General property use (farm)	65
Specific property use (barn)	815
A detached residential garage	
General property use (residential)	41
Specific property use (garage)	881
Extending three of these examples to include mobile property type, the data classification would look like this:	

Example	Classification
A tractor in a barn on a farm	
General property use (farm)	65
Specific property use (barn)	815
Mobile property type (tractor)	65
A railroad locomotive on a railroad bridge	
General property use (railroad)	95
Specific property use (bridge)	921
Mobile property type (locomotive)	35
An automobile in a detached residential garage	
General property use (residential)	41
Specific property use (garage)	881
Mobile property type (automobile)	11

**4-5 Building Code Occupancy Class.** If there is a building code in the community, it classifies the occupancy of the building or a portion of a building and relates certain requirements to that occupancy. Knowing how the occupancy of the building was classified by the building code helps in understanding the presence or absence of certain fire protection requirements.

#### 4-6 General Property Use.

**4-6.1** The general property use designation captures data on the overall use of property so that all specific uses of segments of that property can be linked to its general use. If a portion of the general property is leased, managed, and maintained as a separate property, treat it as a separate general property use for reporting purposes. For example: a hotel at an airport leased to and managed by a hotel chain would be reported as

hotel use while a hotel on a university campus and managed by the university would be reported as educational use.

When a location has two or more completely different general uses, and there is no classification to describe the combination, then the general property use should be classified according to the predominant use at the point of origin of the incident.

**4-6.2\*** Where general property use is to be classified, the following classification numbers should be used.

##### 1. Assembly Use.

11. Public recreation use.  
Included are zoos, government parks, general recreational parks, and improved campsites.
12. Stadium, exhibition use.  
Included are ball parks, racetracks, sports stadiums, exhibit halls.
13. Religious use.  
Included are properties used for funerals and cemeteries.
14. Clubs.  
Included are golf clubs, tennis clubs, country clubs, men's and women's clubs, and casinos.
15. Judicial, legislative, archival, historic use.  
Included are properties used for courts, libraries, museums.
16. Restaurant, food service, drinking establishment.
18. Theater, studio use. Included are drive-in theaters.
10. Assembly Use; insufficient information to classify further.

##### 2. Educational Use.

21. Primary- and secondary-level educational use.  
Included are facilities for education through high school level.
22. Post-secondary-level educational use.  
Included are colleges and universities and all facilities used for post-high-school-level education.
20. Educational Use; insufficient information to classify further.

##### 3. Institutional Use.

31. Nursing care use.  
Included are nursing and convalescent homes, skilled nursing facilities, intermediate care facilities, and those facilities where persons, because of mental or physical incapacity, may be unable to provide for their own needs and where nursing staff is provided on a 24-hour basis. Medical treatment is minor.
32. Limited health care use.  
Included are alcohol and substance abuse centers, mental retardation facilities, and those facilities housing individuals who are incapable of self-preservation because of age or physical limitations due to accident, illness, or mental limitations such as mental retardation/developmental disability, mental illness, or chemical dependency.
33. Medical care use.  
Included are hospitals, medical centers, hospices, psychiatric institutions, and health care facilities where staffing and medical treatment is provided on a 24-hour basis.
34. Ambulatory health care use.  
Included are ambulatory health care centers and those facilities that provide less than 24-hour service and without sleeping, on an outpatient basis, treatment for patients that would render them incapable of self-preservation.
36. Detention and correctional use.
30. Institutional Use; insufficient information to classify further.

##### 4. Residential Use.

41. One- or two-family residential use.
  42. Multi-family residential use.  
Included are apartments and condominium properties.
  43. Group living use.  
Included are properties associated with rooming, boarding, and lodging houses and dormitories or barracks not a part of another general property use.
  44. Transient living use.  
Included are properties associated with hotels, motels, inns, and the like.
  45. Residential board and care use.  
Included are facilities that provide personal care to ensure the safety of the occupants who are capable of limited self-preservation but because of age or physical limitations require a minimal level of personal care.  
Excluded are facilities that provide care to those who require chronic or convalescent care (31, 32, or 33).
  47. Mobile home park use.
  48. Residential with business use.  
Included are those combination use properties where the predominant use is residential.  
Excluded are properties where the predominant use is mercantile or business (58).
  40. Residential Use; insufficient information to classify further.
5. Mercantile, Business, Office Use.
51. Sales use.  
Included are properties where the predominant use is the sale of products.  
Excluded are combination sales/residential use (48 or 58).
  52. Service use.  
Included are properties where the predominant use is for the service, maintenance, or cleaning of products.  
Excluded are sales areas with minor service or repair use (51).
  58. Business with residential use.  
Included are those combination use properties where the predominant use is mercantile or business.  
Excluded are properties where the predominant use is residential (48).
  59. Business, office use.  
Included is nonmilitary government office use.  
Excluded is military office use (63).
  50. Mercantile, Business, Office Use; insufficient information to classify further.
6. Basic Industry, Utility, Defense, or Agricultural Use.
61. Power, energy production or distribution.
  62. Research use.  
Included is laboratory use.
  63. Military, defense use.
  64. Communication use.  
Included are data processing centers.
  65. Farm, agricultural use.  
Included are cropland, orchards, and livestock production.
  66. Indian reservation.
  67. Mining, quarrying.
  68. Timberland and tree farms
  60. Basic Industry, Utility, Defense, or Agricultural Use; insufficient information to classify further.
7. Manufacturing Use.
71. Food industry.
  72. Beverage, tobacco, essential oil industry.
  73. Textile industry.
  74. Footwear, wearing apparel, leather, rubber industry.
  75. Wood, furniture, paper, printing industry.
  76. Chemical, plastic, petroleum industry.
  77. Metal, metal products industry.
  78. Vehicle assembly, manufacture.
  70. Manufacturing Use; insufficient information to classify further.
8. Storage Use.
81. Agricultural products storage.
  82. Textile storage.
  83. Processed food, tobacco storage.
  84. Petroleum products, alcoholic beverage storage.
  85. Wood, paper products storage.
  86. Chemical or plastic, chemical or plastic product storage.
  87. Metal, metal product storage.
  88. Vehicle storage.
  80. Storage Use; insufficient information to classify further.
9. Special Property Use.
91. Refuse disposal.  
Included are all properties associated with the collection, storage, and disposal of discarded material.
  92. Property undergoing transformation.  
Included are construction sites, demolition sites.
  93. Wildland.  
Included are local, state, and national range and forest land where harvesting of timber or mining is not normally done. Wild areas of parks are also included.
  94. Water, waterfront area use.  
Included are passenger terminals and facilities catering to boating and shipping.  
Excluded is ship manufacturing (70).
  95. Railroad transportation use.  
Included are passenger terminals.  
Excluded are railroad areas on other general properties.
  96. Motor vehicle transportation use.  
Included are passenger terminals, highways, roads, and streets.  
Excluded are vehicle areas on other general properties.
  97. Air transportation use. Included are passenger terminals.
  98. Property with no apparent current use.
  90. Special Property Use; insufficient information to classify further.
  99. General Property Use not classified above.
  00. General Property Use undetermined or not reported.
- 4-7 Specific Property Use.**
- 4-7.1** The specific property use identifies the actual use of a specific space, structure, or portion of a structure on the property. Every piece of property, whether it be a structure or an open piece of land, has a use. The specific property use should be one of the following:
- (a) The principal use of a fire division compartment in a structure if the structure or outside area is used for a single purpose.
  - (b) The principal use of a fire division compartment in a structure if the structure is used for multiple purposes.
  - (c) The principal use to which a section of a structure, a space, or an area, whether inside or outside, is put by the owner, tenant, or business occupying that space or area when there are multiple specific uses, multiple tenants, or multiple businesses using the same general property.

**4-7.2** Where mobile property is involved, the proper classification of the specific property is dependent on how the mobile property is being used. If it is mobile or in transit, the property on which it is located when an incident occurs should be identified as the specific property use. For example, 962 (paved public street) should be used for a mobile building in transit. If the mobile property has been fixed by placing it on a foundation or on jacks or has been placed in a location where it is being used as a structure, its use should be identified as the specific property use. For example, 411 (single family dwelling) should be used for a mobile home on a foundation.

**4-7.3** The specific property use classifications that follow are divided into nine major divisions. These divisions are further divided into subdivisions that are then further divided into detailed specific property use classifications. This hierarchical structure allows for different levels of detail (one, two, or three digits) in reporting depending on the information available to the reporter.

**4-7.4** The major divisions (single digit) of the specific property use classification are:

1. Assembly Property
2. Educational Property
3. Health Care and Detention and Correctional Property
4. Residential Property
5. Mercantile, Business Property
6. Basic Industry, Utility, Defense, Agriculture Property
7. Manufacturing Property
8. Storage Property
9. Special Property

**4-7.5\*** Where specific property use is to be classified, the following classification numbers should be used.

1. Assembly Property.

Places for the congregation or gathering of people for amusement, recreation, social, religious, patriotic, civic, travel, and similar purposes are known as assembly properties. Such properties are characterized by the presence or potential presence of crowds, with attendant panic hazard in case of fire or other emergency. They are generally open to the public or may, on occasions, be open to the public. The occupants are present voluntarily and are not ordinarily subject to discipline or control. They are generally able-bodied persons, whose presence is transient in character, and who do not intend to sleep on the premises.

11. Fixed Use Amusement, Recreation Places.

111. Bowling establishment.
112. Billiard center. Included are pool centers and pool halls.
113. Amusement center.  
Amusement hall, such as shooting gallery, penny arcade, bingo hall, and the like.  
Excluded are bowling establishments (111), billiard centers (112), and halls with variable use (121).
114. Ice rink.  
Included are establishments used solely for ice skating, ice hockey, and curling. Ice rinks in arenas and other places that can be converted to other uses are classified in division 12.
115. Roller rink.
116. Swimming facility.  
Included are all swimming pools, related cabanas, bath-houses, and equipment locations.

119. Fixed Use Amusement, Recreation Places not classified above.
110. Fixed Use Amusement, Recreation Places; insufficient information available to classify further.

12. Variable Use Amusement, Recreation Places.

121. Ballroom, gymnasium.  
Included are dance halls.
122. Exhibition hall, exposition hall.
123. Arena, stadium.  
Fixed seating in large areas.  
Included are ball parks, racetracks, grandstands, and sports gardens.
124. Playground.
129. Variable Use Amusement, Recreation Places not classified above.
120. Variable Use Amusement, Recreation Places; insufficient information available to classify further.

13. Places of Worship, Funeral Parlors.

131. Place of worship.  
Included are cathedrals, chapels, churches, missions, synagogues, temples, and the like.
132. Religious education facility.  
Facilities for use in periodic religious education.  
Included are Sunday schools.  
Excluded are regular education buildings run by religious institutions, which are classified in major division 2.
133. Church hall.  
Hall for fellowship, meetings, and the like.  
Included are offices, kitchens, and classrooms contained within the structure.  
Excluded are religious meeting halls that are part of a structure used principally as a place of worship (131).
134. Funeral parlor, chapel.  
Included are crematoriums, mortuaries, morgues, and mausoleums.
139. Places of Worship, Funeral Parlors not classified above.
130. Places of Worship, Funeral Parlors; insufficient information available to classify further.

14. Clubs.

141. City club.  
Included are city club facilities without sleeping accommodations, such as athletic, lodge, social, steam bathing, health, swimming, YMCA, and boys' clubs. If sleeping accommodations are present, classify in major division 4. Excluded are nightclubs (162).
142. Country club.  
Included are country club facilities, such as golf, tennis, rifle, hunting, fishing, beach, and riding clubs.
143. Yacht club.  
Included are boating and yacht club facilities. Excluded are marinas and boat mooring facilities (885), boat repair facilities (782), and marine refueling facilities (577).
144. Casinos, gaming, or gambling places.
149. Clubs not classified above.
140. Clubs; insufficient information available to classify further.

15. Libraries, Museums, Courtrooms.

151. Library.
152. Museum, art gallery. Included are aquariums and planetariums.
153. Historic building.
154. Memorial structure, monument

- 155. Courtroom.
  - 156. Legislative hall.
  - 159. Libraries, Museums, Courtrooms not classified above.
  - 150. Libraries, Museums, Courtrooms; insufficient information available to classify further.
16. Eating, Drinking Places.  
Included are retail establishments selling prepared foods and drinks.
- 161. Restaurant.  
Those eating places specializing in food primarily for consumption on the premises.  
Included are cafeterias and diners, with table or automatic service.
  - 162. Nightclub.  
Those places specializing in food and drink. They may have dancing or entertainment.  
Included are key clubs, supper clubs, and dinner theaters.
  - 163. Tavern.  
Those places specializing in the sale of alcoholic beverages, consumed primarily on the premises, with food as a minor supplement only.
  - 164. Lunchroom, drive-in.  
Those places specializing in quick service for food or beverages.  
Included are lunch counters, drive-ins, snack bars, and the like.  
Excluded are delicatessens (516).
  - 169. Eating, Drinking Places not classified above.
  - 160. Eating, Drinking Places; insufficient information available to classify further.
17. Passenger Terminals.  
Included are incidental freight handling facilities.
- 171. Airport passenger terminal.
  - 172. Heliport, helistop.
  - 173. Bus passenger terminal.  
Included are terminals for airline limousines and downtown airline terminal buildings.
  - 174. Street level rail terminal.
  - 175. Underground rail terminal.
  - 176. Elevated rail terminal.
  - 177. Marine passenger terminal.  
Included are ferry terminals.
  - 179. Passenger Terminals not classified above.
  - 170. Passenger Terminals; insufficient information available to classify further.
18. Theaters, Studios.
- 181. Legitimate theater.  
Included are combined live and movie theaters.
  - 182. Auditorium, concert hall.
  - 183. Motion-picture theater.  
Excluded are drive-in theaters (184).
  - 184. Drive-in motion-picture theater.
  - 185. Radio, TV studio.
  - 186. Motion-picture studio.  
Included are motion-picture making studios and editing areas.  
Excluded are film processing facilities (797).
  - 189. Theaters, Studios not classified above.
  - 180. Theaters, Studios; insufficient information available to classify further.
10. Assembly Property: Unclassified.
- 109. Assembly Property not classified above.
  - 100. Assembly Property; insufficient information available to classify further.
2. Educational Property.
- Educational properties are those used for the gathering of groups of persons for purposes of instruction such as schools, colleges, universities, and academies. Educational properties are distinguished from public assembly properties in that the same occupants are present regularly, and they are subject to discipline and control. Included are part-day nursery schools, kindergartens, and other schools whose primary purpose is education. The occupants may or may not be able-bodied and capable of self-determination. Other properties associated with educational institutions are classified in accordance with their actual use.
21. Nonresidential Schools.  
All public, private, or parochial schools where students attend during the day only.
- 211. Nursery school.  
Schools for pre-kindergarten age children, operating 4 hours a day or less. If operating over 4 hours, classify as child day-care center (division 25).
  - 212. Kindergarten.  
Schools for children in the grade before grade 1.
  - 213. Elementary school.
  - 214. Junior high school.  
Included are intermediate and middle schools.
  - 215. High school.
  - 219. Nonresidential Schools not classified above.
  - 210. Nonresidential Schools; insufficient information available to classify further.
22. Residential Schools.  
All public, private, or parochial boarding schools, including such day student facilities as may be present.
- 221. Residential school classroom building.  
Buildings containing classrooms.  
Included are such laboratories, libraries, and offices as may be present. If one building houses the entire school, the fire is classified by point of origin, that is, dormitory, office, etc. Other buildings in a school property are classified as to their appropriate specific property use.
  - 229. Residential Schools not classified above.
  - 220. Residential Schools; insufficient information available to classify further.
23. Trade, Business Schools other than High School or College.
- 231. Vocational, trade school.
  - 232. Business school.
  - 233. Specialty school.
  - 234. Rehabilitation center where attendance is by choice.  
Excluded are vocational rehabilitation centers where attendance is by direction (366).
  - 239. Trade, Business Schools other than High School or College not classified above.
  - 230. Trade, Business Schools other than High School or College; insufficient information available to classify further.
24. Colleges, Universities.

241. College classroom building.  
Buildings containing classrooms used for higher education whether a college, university, junior college, community college, or any other institution of higher learning. Included are such incidental laboratories, libraries, and offices as may be present. If one building houses the entire college, classify here. Other buildings in a college are classified under the appropriate specific property use, such as dormitory, office, and the like.
249. Colleges, Universities not classified above.
240. Colleges, Universities; insufficient information available to classify further.
25. Day-Care Facility.  
A facility for the care, maintenance, and supervision of clients by other than their relative(s) or legal guardian(s) for less than 24 hours per day.
251. Day-Care Facility for up to 7 clients.
252. Day-Care Facility for 7 to 12 clients.
253. Day-Care Facility for over 12 clients.
259. Day-Care Facility not classified above.
250. Day-Care Facility; insufficient information to classify further.
20. Educational Property: Unclassified.
209. Educational Property not classified above.
200. Educational Property; insufficient information available to classify further.
3. Health Care and Detention and Correctional Property.
- NOTE: Both health care and detention and correctional properties are classified in major division 3 because of the lack of additional single digit numbers. The fire problems associated with these two different types of property use should be analyzed separately.
- Health care properties are those used for purposes such as medical or other treatment or care of persons suffering from physical or mental illness, disease, or infirmity. Such buildings ordinarily provide sleeping facilities for the occupants.
31. Nursing Home.
311. Facilities, licensed by the state, providing 24-hour nursing care for 4 or more persons.  
Included are licensed: nursing homes, long-term care facilities, intermediate care facilities (ICF), skilled nursing facilities (SNF), and convalescent homes.
319. Nursing home care not classified above (for facilities without 24-hour nursing staff, see Section 47, Residential Board and Care).
310. Nursing Home; insufficient information available to classify further.
32. Limited Care Facility.  
Limited care facilities are used for the housing, on a 24-hour basis, of 4 or more persons who are incapable of self-preservation because of age or physical limitations due to accident, illness, or mental limitations.
321. Mental retardation (MR)/development disability facility.
322. Alcohol or substances abuse center where individuals are incapable of self-preservation.
329. Limited Care Facility not classified above.
320. Limited Care Facility; insufficient information available to classify further.
33. Hospitals.
331. Medical, psychiatric, pediatrics, or hospital type infirmary, including specialty hospitals, accredited or licensed by a state.
332. Hospices.  
Included are facilities where the care and treatment of the terminally ill is provided on a 24-hour basis and is accredited or licensed by a state for such use.
339. Hospital and hospital type facility not classified above.
330. Hospital and hospital type facility; insufficient information available to classify further.
34. Ambulatory Care Facility.  
Facilities used for health care that provide less than 24-hour service for 4 or more patients without sleeping, generally on an out-patient basis. Treatment provided to patients may render them incapable of self-preservation due to application of general anesthesia or requiring assistance from others due to specified treatment.
341. Clinic, including out-patient clinics and freestanding emergency medical facilities where 4 or more patients may be rendered incapable of self-preservation.
342. Oral surgeon, dentist, or doctor's office [for facilities with less than 4 patients incapable of self-preservation, see medical office building (593)].
343. Hemodialysis units.
349. Ambulatory Care Facility not classified above.
340. Ambulatory Care Facility; insufficient information to classify further.
35. Other Health Care Facility.
359. Health Care Facility not classified above.
350. Health Care Facility; insufficient information to classify further.
36. Care of the Physically Restrained.
361. Prison, cell block for men.
362. Prison, cell block for women.
363. Juvenile detention home.
364. Men's detention camp. Minimum security type.
365. Police station.
366. Vocational rehabilitation center.  
Attendance by direction.  
Excluded are rehabilitation centers where attendance is by choice (234).
369. Care of the Physically Restrained not classified above.
360. Care of the Physically Restrained; insufficient information available to classify further.
39. Other Detention and Correctional Facility.
399. Detention and Correctional Facility not classified above.
390. Detention and Correctional Facility; insufficient information to classify further.



#### 4. Residential Property.

A residential property is one in which sleeping accommodations are provided for normal living purposes and includes all buildings designed to provide sleeping accommodations except those classified under Health Care and Detention and Correctional (major division 3).

Subdivisions of residential property used in this section are separated according to potential life hazard. Popular names and legal definitions may be different from those given here. The categories here, however, are significant from a fire and life protection standpoint.

**CAUTION:** Classify the property by its actual use according to the standard definitions given here, not by what the property owner cares to call his or her building. Thus, a residential property called a “hotel” on the sign over the door may not be a hotel by these definitions. From a fire standpoint it may be an apartment (division 42), or a rooming house (division 43), depending upon its use.

There are two differences between categories of residential property to be considered when deciding how to classify residential property:

- (a) A separate and independent living unit for each person or group of related persons; or not.
- (b) Kitchens in individual units; or not.

In residential structures falling between the categories given below, use the category appearing most applicable.

##### 41. One- and Two-Family Dwelling.

The following criteria typically apply to one- and two-family dwellings.

Separate living units — Yes  
Kitchens in units — Yes

Included are private dwellings and duplexes each occupied by members of a single family group, with rooms rented to no more than three outsiders per unit. If a separate business or other occupancy is contained in the building, the residential unit(s) is classified in division 42.

“Row houses,” “townhouses,” “garden apartments,” and other similar units regardless of local terminology, are classified as dwellings (division 41) when one or two units are separated from the adjoining units by fire division assemblies, and the one or two units are under their own roof.

A mobile home not in transit, and used as a dwelling, should be classified here and also as a “mobile building” (subdivision 17) in “Mobile Property Type” (see 4-8.3). A travel trailer not in transit and used as a dwelling should be classified here and also as a “travel trailer” (subdivision 15) in “Mobile Property Type” (see 4-8.3).

A mobile home or travel trailer in transit should be classified using the appropriate classification in major division 9 below and its type should be classified in “Mobile Property Type” (see 4-8.3). Fires in these should be classified as vehicle fires when they are in transit.

Attached parking garages are included here unless separated from the dwelling by a fire division assembly. Detached parking garages are classified in subdivision 881.

- 411. One-family dwelling; year-round use.
- 412. One-family dwelling; seasonal use.
- 413. (This former subdivision is now included in subdivision 412.)
- 414. Two-family dwelling; year-round use.
- 415. Two-family dwelling; seasonal use.
- 416. (This former subdivision is now included in subdivision 415).
- 419. One- and Two-Family Dwelling not classified above.
- 410. One- and Two-Family Dwelling; insufficient information available to classify further.

#### 42. Apartments, Tenements, Flats.

The following criteria typically apply to apartments, tenements, or flats.

Separate living units — Yes  
Kitchens in units — Yes

This division includes quarters for families living independently of each other, and with kitchen facilities in individual units, whether designated as “apartment house,” “garden apartment,” “tenement,” “condominium apartment,” “flat,” or by any other name.

Regardless of local terminology, living units are classified here when three or more units are located within common fire division walls and the units are under a common roof or have a common basement.

An apartment in a building with a separate store, office, or other business is identified here and also as a “Business with Residential” in General Property Use (see 4-6.2).

- 421. 1 or 2 living units with business.  
Excluded are one or two living units without business, which are classified as dwellings (division 41).
- 422. 3 through 6 units.
- 423. 7 through 8 units.
- 424. 9 through 10 units.
- 425. 11 through 12 units.
- 426. 13 through 14 units.
- 427. 15 through 20 units.
- 428. Over 20 units.
- 429. Apartments, Tenements, Flats not classified above.
- 420. Apartments, Tenements, Flats; insufficient information available to classify further.

#### 43. Rooming, Boarding, Lodging Houses.

The following criteria typically apply to rooming, boarding, or lodging houses.

Separate living units — Yes  
Kitchens in units — No

This division includes living quarters in which separate sleeping rooms are rented, with sleeping accommodations for a total of not more than 16 persons, on either a transient or permanent basis, with or without meals, but without separate cooking facilities for individual occupants.

Halfway houses or group care homes can be classified here if all persons are certified by mental or health authorities as capable of self-help under emergency conditions.

Where rooms are rented for one to three persons, classify in division 41. Where rooms are rented for more than 16 persons, classify in division 44 or division 46.

- 431. 4 to 8 roomers or boarders.
- 432. 9 to 16 roomers or boarders.
- 439. Rooming, Boarding, Lodging Houses not classified above.
- 430. Rooming, Boarding, Lodging Houses; insufficient information available to classify further.

#### 44. Hotels, Motels, Inns, Lodges.

The following criteria typically apply to hotels, motels, inns, or lodges.

Separate living units — Yes  
Kitchens in units — Either

This division includes living quarters in which there are sleeping accommodations for hire for more than 16 persons, primarily used by transients, lodged with or without meals, but without separate cooking facilities in each unit, whether designated as a “hotel,” “motel,” “club,” “apartment hotel,” “YMCA,” “lodge,” or by any other name. Included are dormitories for transient occupants.

Facilities for 16 or less persons are classified in division 43.

- 441. Less than 20 units; year-round use.
- 442. Less than 20 units; seasonal use.

- 443. 20 to 99 units: year-round use.
- 444. 20 to 99 units: seasonal use.
- 445. 100 or more units: year-round use.
- 446. 100 or more units: seasonal use.
- 449. Hotels, Motels, Inns, Lodges not classified above.
- 440. Hotels, Motels, Inns, Lodges; insufficient information available to classify further.

#### 45. Residential Board and Care.

"Personal care" means protective care of a resident who does not require chronic or convalescent medical or nursing care. Personal care involves responsibility for the safety of the resident when in the building. Protective care may include a daily awareness by the management of the resident's functioning and his or her whereabouts, the arrangement of appointments and reminders of appointments for a resident, the ability and readiness to intervene if a crisis arises for a resident, supervision in areas of nutrition and medication, and actual provision of transient medical care.

Facilities for 3 or less persons would be classified in division 41 or 42 as appropriate.

- 451. Residential Board and Care for 4 to 16 persons.
- 452. Residential Board and Care for more than 16 persons.
- 459. Residential Board and Care not classified above.
- 450. Residential Board and Care; insufficient information available to classify further.

#### 46. Dormitories.

The following criteria typically apply to dormitories.

Separate living units — Either  
Kitchens in units — No

This division includes living quarters provided for more than 16 persons for an extended period, for persons not members of the same family group, in one room or a series of closely associated rooms, under joint occupancy and single management, with or without meals. Use division 44 for dormitories with transient occupants.

Facilities for 16 or less persons are classified in division 43.

- 461. School, college, university dormitory.
- 462. Fraternity, sorority house.
- 463. Nurses' quarters.
- 464. Military barracks.
- 465. Convent, monastery, other religious dormitory.
- 466. Bunk house, workers' barracks.
- 469. Dormitories not classified above.
- 460. Dormitories; insufficient information available to classify further.

47. This former division is now included in division 41.

48. This former division is now included in division 44.

#### 49. Other Residential Occupancies.

- 491. Children's playhouse.
- 492. Outdoor sleeping quarters. Included are tents.
- 499. Other Residential Occupancies not classified above.
- 490. Other Residential Occupancies; insufficient information available to classify further.

#### 40. Residential Property: Unclassified.

- 409. Residential Property not classified above.
- 400. Residential Property; insufficient information available to classify further.

#### 5. Mercantile, Business Property.

Mercantile properties include all markets and other areas, buildings, or structures for the display, sale, repair, or service of merchandise, new or used, purchased or rented. Mercantile or store properties generally have a capacity for a large number of people and usually have a display and sales area that is large in relation to the storage area.

Business properties are those principally used for the transaction of business and the keeping of private or public records.

#### 51. Food, Beverage Sales.

Sale of food and beverage for consumption on the premises is classified in division 16, Eating, Drinking Places.

- 511. Supermarket.  
Supermarkets that sell a broad line of food items as well as some nonfood items and cover over 930 m<sup>2</sup> (10,000 ft<sup>2</sup>) in total area.
- 512. Market, grocery store.  
Markets and grocery stores that sell a broad line of food items as well as some nonfood items and cover less than 930 m<sup>2</sup> (10,000 ft<sup>2</sup>) in total area.
- 513. Specialty food store.  
Specialty food stores that specialize in a few basic food items and may have supplementary items for customer convenience.  
Included are meat, fish, candy, bakery, gourmet shops, and roadside farm produce stands and counters.  
Excluded are liquor, beverage stores (514), creamery, dairy stores (515), and delicatessens (516).
- 514. Liquor, beverage store.
- 515. Creamery, dairy store.
- 516. Delicatessen.  
Sale of prepared foods mainly for consumption off the premises. Included are pick-up and carry-out services. Excluded are drive-in type restaurants (164).
- 519. Food, Beverage Sales not classified above.
- 510. Food, Beverage Sales; insufficient information available to classify further.

#### 52. Textile, Wearing Apparel Sales.

- 521. Clothing store.  
Sale of wearing apparel, whether new or used, and clothing rental shops.  
Included are sales of accessories incidental to clothing sale.  
Excluded are shoe stores (522) and fur stores (525).
- 522. Clothing accessories, shoe store.  
Shops specializing in clothing accessories, whether new, used, or rented. Included are tie, shoe, shirt, and hat stores.
- 523. Shoe repair shop.  
Repair of boots and shoes (cobbling).  
Included are repairers who also make footwear and shining stands and shops.
- 524. Tailor, dressmaking shop.  
Included are stores specializing in alterations to ready-made wear.
- 525. Fur store.  
Stores specializing in fur sales.  
Excluded are fur departments of stores with a broad line of clothing goods (521) and the storage of fur garments (828).
- 526. Dry goods store.  
Included are all sales of dry goods, yard goods, and piece goods.  
Excluded are clothing stores (521), clothing accessories stores (522), and rug or carpet sales (536).
- 529. Textile, Wearing Apparel Sales not classified above.
- 520. Textile, Wearing Apparel Sales; insufficient information available to classify further.

53. Household Goods Sales, Repairs.  
Sale of common items used principally to equip and maintain the home.
531. Furniture store.  
Included are sales of all new and used furniture, office furniture, and large non-desktop equipment, such as water coolers.  
Excluded are office supply and desktop office equipment sales (541), and furniture departments of large multi-department stores (581).
532. Appliance store.  
Included are those stores principally selling major and minor appliances with or without associated repair departments.  
Excluded are appliance repair shops without sales (538).
533. Hardware store. Included are sales of tools and associated equipment, parts, and retail plumbing supplies.
534. Music or video store.  
Included are the sale or rental of records, sheet music, video tapes, compact and laser discs, pianos, organs, and other musical instruments, and associated listening and teaching facilities.
535. Wallpaper, paint store.  
Included are sales of wall coverings and decorating materials and sale or rental of associated tools and equipment.
536. Rug, floor covering store  
Included are the sale or rental of rugs, carpets, and floor coverings, and sale or rental of associated tools and equipment.
537. Furniture repair shop.  
Included are shops for repair of furniture and upholstery without sales. Excluded are repairs with sales (531).
538. Appliance repair shop.  
Included are shops for repair of appliances without sales. Excluded are repairs with sales (532).
539. Household Goods Sales, Repairs not classified above.
530. Household Goods Sales, Repairs; insufficient information available to classify further.
54. Specialty Shops.  
Sale of material commonly used in the home.
541. Book, stationery store.  
Included are sales of new or used books, office supplies, and desktop office equipment.  
Excluded are sales of larger office equipment and office furniture (531).
542. Newsstand, tobacco shop.
543. Drug store.  
Usually has a pharmacist on duty.  
Excluded are drug stores that are chiefly variety stores (582 or 583).
544. Gift, jewelry store.  
Included are sales of glassware, china, and silver and the repair of jewelry and watches.
545. Electronic specialty store.  
Included are sales of radios, CBs, computers, televisions, video recording equipment, hi-fis, and related components.  
Excluded are the sales and rental of video tapes or compact discs (534).
546. Leather goods shop.  
Included are the sale of leather goods, and luggage of all types and from all materials.  
Excluded are shoe stores (522).
547. Florist shop, greenhouse.  
Included are florist shops for the sale of flowers (artificial or natural), greenhouses, and flower raising operations.  
Excluded are garden shops (554).
548. Optical goods sales.  
Included are opticians, eyeglass fitting and grinding.
549. Specialty Shops not classified above.
540. Specialty Shops; insufficient information available to classify further.
55. Recreation, Hobby, or Home Repair Supply Sales, Personal Services.  
The sale and processing of material used in hobbies, sports, and recreation activities and personal service.  
Excluded are record shops and video stores (534).
551. Hobby, toy shop.  
Included are the sale of toys and hobby supplies.  
Excluded are art supplies (563), sporting goods (552), and photographic goods (553).
552. Sporting goods store.  
Included are the sale of firearms, ammunition, tents, and other material for use in all sporting and athletic activities.  
Excluded are sportswear shops (521).
553. Photographic supply sales, still-picture studio.  
Included is the sale of photographic equipment.  
Excluded are motion-picture studios (186) and plant processing of film (797).
554. Garden supply store.  
Included are the retail sale of equipment, seeds, fertilizer for home or garden use, and sale or rental of snow blowers, lawn sweepers, and other home maintenance machines.
555. Retail lumber sales.  
Lumber distribution centers.  
Included are incidental sales of related home repair supplies.  
Excluded are lumberyards used principally for storage (851).
556. Pet store, animal hospital.  
Sale of pets, animal and pet supplies. Included are animal hospitals and care centers.
557. Barber, beauty shop.
558. Fireworks sales.  
Included are retail fireworks sales from temporary or permanent locations.
559. Recreation, Hobby, or Home Repair Supply Sales, Personal Services not classified above.
550. Recreation, Hobby, or Home Repair Supply Sales, Personal Services; insufficient information available to classify further.
56. Professional Supplies, Services.
561. Professional supply sales.  
Included are the sale of stethoscopes, hospital supplies, special tools, engineering instruments, and other professional supplies.
562. Trade supply sales.  
Included are the sale of machinists' supplies, plumbers' tools, and carpenters' equipment.
563. Art supply sales.
564. Self-service laundry, dry cleaning.
565. Linen supply house.
566. Laundry, dry cleaner pickup shop.  
Shops for pickup of laundry and cleaning with little or no processing on the premises, other than pressing.
567. Home maintenance services.  
Included are firms doing home maintenance work such as floor cleaning, window washing, chimney cleaning, and exterminating.
568. Restaurant supplies, services.
569. Professional Supplies, Services not classified above.

560. Professional Supplies, Services; insufficient information available to classify further.
57. Motor Vehicle or Boat Sales, Services.
571. Public service station.  
Fuel service facilities for motor vehicles operated for the public, such as gasoline service stations, diesel fuel stations, and LP-Gas stations, with associated lubricatorium and wash facilities.  
Included are service station islands.  
Excluded are marine service facilities (577).
572. Private service station.  
Private or fleet vehicle refueling where employees may fuel the vehicle themselves, such as at a transit company garage, a trucking company yard, or a farm.
573. Motor vehicle repair, paint shop.  
Repair of automobiles or motor trucks and shops doing specialized repair work to motor vehicles such as repair of auto tops, hoods, or electrical systems.  
Excluded are car washing facilities (578).
574. Motor vehicle, trailer sales.  
Included are the sale of farm implements and motorcycles.
575. Motor vehicle accessory sales.  
Sale of accessories for motor vehicles such as lights, tires, parts, and special tools.
576. Boat, pleasure-craft sales.  
Sale of boats, marine vessels, outboard motors, and accessories.  
Excluded are incidental sales at boat storage facilities (885) and boat repair yards (782).
577. Marine service station.  
Refueling facilities for marine vessels of any size.
578. Car washing facility.
579. Motor Vehicle or Boat Sales, Services not classified above.
570. Motor Vehicle or Boat Sales, Services; insufficient information available to classify further.
58. General Item Stores.  
Included are stores selling a wide range of items that cannot be readily classified in previous subdivisions.
581. Department store.  
A store with many separate lines of goods, but to be classified here the store must have a full furniture department.
582. Small variety store.  
A store of less than 930 m<sup>2</sup> (10,000 ft<sup>2</sup>) with a wide range of goods but no furniture department.  
Included are Army-Navy stores, "5 and 10 cent stores," second-hand stores, and surplus stores.
583. Large variety store.  
A store of 930 m<sup>2</sup> (10,000 ft<sup>2</sup>) or over with a wide range of goods but no furniture department. Merchandise is usually displayed as in a supermarket, and stores are usually self-service with check-out counters.
584. Mail order store.  
Mail order and catalogue stores with display area regardless of size. Use subdivision 581 when applicable and when the mail order section is a small section of the larger store.
585. Mall.  
Included are only the areas common to a multistore facility.
589. General Item Stores not classified above.
580. General Item Stores; insufficient information available to classify further.
59. Offices.  
Office properties are those used for the transaction of business, for the keeping of accounts and records, and for similar purposes. Included are buildings housing business, administrative, professional, or regulatory functions; doctors' and dentists' offices, unless of such character as to be classified as hospitals; service facilities usual to office buildings; and municipal office buildings, as their principal function is the transaction of the public business and the keeping of books and records.  
Minor office occupancy incidental to operations in another property shall be considered part of the predominating property.
591. General business office.  
Office buildings for the administration of industrial and business enterprises whether at the plant or located elsewhere.  
Included are offices of insurance carriers, consultants, and adjusting agencies; real estate operators, developers, and agents; lawyers, advocates, and solicitors; importers, exporters, manufacturers' agents, commodity brokers; trade associations, chambers of commerce, professional societies; labor organizations; religious organizations; local and county government offices; state or provincial government offices; central government offices; offices of the armed forces and defense agencies; and savings and loan companies without first-story banking premises.
592. Bank, with first-story banking facilities  
Excluded are savings and loan companies without first-story banking premises (591).
593. Medical, research, scientific office.  
Included are surgical, dental, health service offices; outpatient clinics; offices of nurses and midwives; consulting rooms or offices of physicians, surgeons, and other medical practitioners; offices primarily engaged in research; and offices at meteorological institutes.  
Excluded are laboratories classified in division 62 and offices that provide treatment for four or more patients that may render them incapable of self-preservation due to application of general anesthesia or requiring assistance from others due to specified treatment (342).
594. Engineering, architectural, technical office.  
Included are surveying and scientific engineering development offices, and permanent office buildings of a contractor.  
Excluded are contractors' job-site-located offices (591) and tool or parts storage (808).
595. Mailing firm.
596. Post office.
599. Offices not classified above.
590. Offices; insufficient information available to classify further.
50. Mercantile, Business Property: Unclassified.
509. Mercantile, Business Property not classified above.
500. Mercantile, Business Property; insufficient information available to classify further.
6. Basic Industry, Utility, Defense, Agriculture Property.  
Included are agriculture, forestry, the extractive and mining industries, mineral products, utilities, laboratories, nuclear plants, and communication facilities; and national defense sites, since they depend so heavily on communications.
61. Nucleonics, Energy Production.
611. Radioactive material working.  
Included are plants manufacturing fuel elements or involved with radioactive waste disposal, and plants processing or producing uranium, radium, thorium, heavy water, or plutonium.
612. Nuclear ordnance plant.  
Included are bomb assembly plants.

613. Nuclear energy plant.  
Production of energy for power purposes.  
Included is the generation of electricity if an integral part of the nuclear plant.
614. Steam, heat energy plant.  
Creation of heat and steam from any fuel except nuclear.  
Included are integral boiler-turbine-generator units driven by non nuclear fuels.
615. Electric generating plant.  
Generation of electric energy.  
Included are locations producing electricity for public use, for rail transport use, for groups of factories, and for individual properties.  
Excluded are the energy sources (613 or 614) unless they are integral units.
616. Gas manufacturing plant.  
Manufacture of gas in gas works, including peak shaving gas plants.
619. Nucleonics, Energy Production not classified above.
610. Nucleonics, Energy Production; insufficient information available to classify further.
62. Laboratories.  
Included are classrooms and offices incidental to laboratory facilities. Minor laboratory areas incidental to operations in another property shall be considered part of the predominating property.
621. Chemical, medical laboratory.  
Included are biological laboratories.
622. Physical materials testing laboratory.  
Included are all laboratories for testing physical properties of materials, hydraulic laboratories, physics laboratories, and physical materials laboratories.
623. Personnel, psychological laboratory.  
Included are laboratories for the testing and measuring of persons, and educational laboratories.
624. Radioactive materials laboratory.  
Any laboratory handling or using radioactive material in a quantity requiring marking.
625. Electrical, electronic laboratory.
626. Agricultural laboratory.
627. General research laboratory.
629. Laboratories not classified above.
620. Laboratories; insufficient information available to classify further.
63. Communications, Defense, Document Facilities.  
Critical areas where security must be maintained in order to assure national, business, or public safety continuity.
631. National defense site not elsewhere classified.  
Included are missile or space vehicle launch sites.  
Excluded are radio and radar sites (632). The missiles or vehicles, themselves, are classified under "Mobile Property Type" (see 4-8.3).
632. Radio, radar site  
Included are microwave transmitter sites, flight control facilities, satellite tracking stations, and repeater sites.  
Excluded are fire, police, and industrial communication centers (633).
633. Fire, police, industrial communications center.  
Included are municipal, county, state, and province emergency communications facilities, such as fire control centers, police control centers, disaster control facilities, and all auxiliary equipment locations; and industrial communications centers.
634. Telephone exchange, central office.  
Included are communications cable sites with the associated repeater and terminal facilities.
635. Computer, data-processing center.
636. Document center, record repository.
639. Communications, Defense, Document Facilities not classified above.
630. Communications, Defense, Document Facilities; insufficient information available to classify further.
64. Utility, Energy Distribution Systems.
641. (This former subdivision is now included in division 61.)
642. Electric transmission, distribution system.  
Distribution of electricity outside generating plant premises.  
Included are substations, transformers, and utility poles.
643. (This former subdivision is now subdivision 616.)
644. Gas distribution system, pipeline.  
Piping systems and associated equipment for the distribution of gas fuels from manufacturing plants, storage facilities, or wells to the user.  
Included are transmission lines, compressors, and distribution piping.
645. Flammable liquid distribution system, pipeline.  
Piping systems and associated equipment for the distribution of flammable liquid from manufacturing plants, storage facilities, or wells to the user.
646. Steam, heat distribution system.  
Distribution of steam, hot water, hot chemicals, and hot oils, for heating and power purposes. Included are "district heating" systems.
647. Water supply system  
Collection, treatment, storage, and distribution of water.
648. Sanitary service.  
Garbage and sewage disposal. Included are sewer systems, commercial incinerators, and industrial rubbish burners.  
Excluded are dumps (division 91).
649. Utility, Energy Distribution Systems not classified above.
640. Utility, Energy Distribution Systems; insufficient information available to classify further.
65. Agriculture.  
Production of raw agricultural products and farming. Processing and working of products is classified elsewhere.
651. Livestock production.  
Included are milking facilities, poultry and egg production, and other livestock (including exotics) production.  
Excluded are meat and milk processing plants (711 and 712).
652. Not used in this edition.
653. Not used in this edition.
654. Not used in this edition.
655. Crops, orchards. Included is improved fenced pasture land.
656. Curing and drying facility for agricultural products.
657. Fruit, vegetable packing.  
Packing of raw fruit and vegetables as picked.  
Excluded are fruit and vegetable processing plants (713).
659. Agriculture not classified above.
650. Agriculture; insufficient information available to classify further.
66. Forests, Hunting, Fishing.
661. Forest, standing timber without logging operations.  
Included are wildlife preserves; timber tracts where planting, replanting, and conservation of forests are conducted; areas where uncultivated materials, such as gums and resin, wild rubber, saps, barks, wild fruits and flowers, and roots are gathered; and facilities where extracting, concentrating, and distilling of sap, and charcoal burning are carried on when located in the forest.

662. Forest, standing timber with logging operation.  
Included are land areas where there is felling and rough cutting of trees, hewing or rough shaping of poles, blocks, and other wood materials; and timber and log piles in the forest. Excluded are sawmills operating in the forest (751).
663. Hunting, trapping, game propagation.  
Included are areas where hunting, trapping, and game propagation of wild animals is conducted for commercial purposes not connected with sport.
664. Not used in this edition.
665. Fish hatchery.
666. Wood-chip pile.
669. Forests, Hunting, Fishing not classified above.
660. Forests, Hunting, Fishing; insufficient information available to classify further.
67. Mining, Quarrying of Natural Raw Materials.  
Underground and surface mines, quarries, and oil wells. Included are supplemental on-site machinery, prospecting for minerals, and preparing sites for extraction. Quarries and mines attached to other properties are, as far as possible, classified in this division.
671. Coal mine.
672. Ore mine.
673. Ore concentration plant.
674. Petroleum, natural gas well with accompanying reservoir.  
Oil and gas producing property, oil well and natural gas well operations. Included are prospecting and drilling, oil shale or bituminous sand operations, and extraction of crude oil. Excluded are pipeline operations (644 and 645).
675. Stone, slate, clay, gravel, sand quarries, pits.  
The extraction of building and monumental stone or slate; ceramic, refractory, and other clay; and all sand and gravel.
676. Salt mine. The extracting and quarrying of salt.  
Included are evaporating in salt pans, crushing, screening, and refining.  
Excluded are the refinement of salt for human consumption in establishments not engaged in extracting or quarrying salt (719).
677. Chemical, fertilizer, mineral mine.  
The mining and quarrying of phosphate and nitrate minerals, fluorspar, sulfur ores and natural sulfur, potash, sodium and borate minerals, borites, pyrites, arsenic, strontium and lithium minerals, and mineral pigments. Included are guano gathering operations.
678. Nonmetallic mineral mine, quarry.  
All other nonmetallic mining and quarrying, such as asbestos.  
Included are areas where peat is cut and dug.
679. Mining, Quarrying of Natural Raw Materials not classified above.
670. Mining, Quarrying of Natural Raw Materials; insufficient information available to classify further.
68. Nonmetallic Mineral, Mineral Products Manufacture.  
Manufacture of clay products; glass and glass products; pottery, china, and earthenware; cement, concrete products, and other nonmetallic mineral products. Coal and petroleum are classified in division 67.
681. Structural clay products manufacture.  
Manufacture of structural clay products such as bricks, tiles, pipes, crucibles, architectural terra cotta; stove lining, chimney pipes and tops; and refractories.
682. Glass manufacture, excluding containers.  
Manufacture of all glass and glass products except glass containers. Included are the manufacture of optical glasses and glass fiber.  
Excluded are the grinding of lenses (792 or 548) and glass container manufacturing (683).
683. Glass container manufacture.
684. Pottery, china, earthenware manufacture.
685. Cement manufacture.
686. Concrete batch plant.
687. Abrasives manufacture.  
Included are the shaping of natural abrasives into grindstones, coating cloth and paper with abrasives, and making abrasive bonded wheels and disks.
688. Nonmetallic mineral product manufacture.  
Manufacture of concrete, gypsum and plaster products, asbestos, mineral wool, cut-stone and stone products, and all other nonmetallic mineral products.
689. Nonmetallic Mineral, Mineral Products Manufacture not classified above.
680. Nonmetallic Mineral, Mineral Products Manufacture; insufficient information available to classify further.
60. Basic Industry, Utility, Defense, Agriculture Property: Unclassified.
609. Basic Industry, Utility, Defense, Agriculture Property not classified above.
600. Basic Industry, Utility, Defense, Agriculture Property; insufficient information available to classify further.
7. Manufacturing Property.  
This major division includes properties where there is mechanical or chemical transformation of inorganic or organic substances into new products, whether the work is performed by power-driven machines or by hand, whether it is done in a factory or in the worker's home, and whether the products are sold at wholesale or retail. The assembly of component parts of manufactured products is part of manufacture.  
Included are factories making products of all kinds and properties devoted to operations such as processing, assembling, mixing, packing, finishing or decorating, repairing, and similar operations. For mineral processing, use division 68.
71. Food Industries.
711. Slaughtering, preparation, preserving of meat.  
Included are processing and packing activities such as curing, smoking, salting, pickling, packing in airtight containers, and quick-freezing, as well as manufacture of natural sausage casing and the rendering of lard and other edible animal fats. Excluded are canning and processing of fish and seafood (714).
712. Dairy processing and manufacture.  
Manufacture of cream and butter, natural and processed cheese, condensed and other types of concentrated milk, ice cream, and ices, powdered milk, and other edible milk products. Included are the pasteurizing and bottling of milk.
713. Canning, preserving of fruits, vegetables.  
Canning (packing in airtight containers) of fruits and vegetables including fruit and vegetable juices; manufacture of raisins and dried fruits, preserves, jams and jellies, pickles and sauces, and canned soups. Included are dehydration and quick-freezing.

714. Canning, preserving of fish, seafood.  
Preserving and processing fish and other marine foods.  
Included are such operations as salting, drying, dehydrating, smoking, curing, cooling, pickling, packing in airtight containers, and quick-freezing.  
Excluded are icing, salting, filleting of fish catch, and processing of the catch aboard fishing vessels (mobile property type 48).
715. Manufacture of grain mill products.  
Grain mills (flour, meal, dry feeds); husking, cleaning, and polishing of rice; preparation of breakfast foods such as rolled oats, rice, wheat and corn flakes, parched grain; prepared feeds for animals and fowl; blended and prepared flour, and other cereal and pulse preparations. Included are coffee, pulse, root peeling mills, and starch and its products.
716. Bakery product manufacture.  
Manufacture of bread, cakes, cookies, doughnuts, pies, pastries, and similar "perishable" bakery products; biscuits and similar "dry" bakery products and pasta products.  
Excluded are breakfast foods (715).
717. Sugar refining, confectionery manufacture.  
Manufacture and refining of raw sugar, syrup, and granulated or clarified sugar from sugar cane or sugar beets.  
Manufacture of cocoa and chocolate powder from beans, chocolates, all types of confectionery.
718. Snack foods manufacture.  
Potato chips and other products of deep-fat frying.
719. Food Industries not classified above.  
Included are the manufacture of baking powder and yeast; condiments, mustard, and vinegar; food specialties; egg specialties; spice grinding; processing of tea leaves into black tea; edible salt refining; harvesting and the manufacture of ice, except dry ice; and commercial kitchen with meal preparation for off-premises consumption (as in catering businesses).  
Excluded is the manufacture of dry ice (761).
710. Food Industries; insufficient information available to classify further.
72. Beverages, Tobacco, Essential Oils.
721. Distilling, rectifying, blending spirits.  
Included are the distilling of ethyl alcohol for all purposes and the distilling, rectifying, and blending of alcoholic liquors.
722. Wines, winery.  
Production of wines, cider, and other fermented beverages except malt liquors.
723. Brewery, manufacture of malt.  
The production of malt and malt liquors.
724. Soft drink, carbonated water industry.  
Manufacture of nonalcoholic beverages, such as soft drinks and carbonated mineral waters.  
Included are the incidental manufacture of flavoring extracts and syrups.  
Excluded is the manufacture of syrup alone (717).
725. Tobacco products manufacture.  
Included are stemming, redrying, and other operations after auctioning that are connected with preparing raw-leaf tobacco for manufacturing.  
Excluded are tobacco drying/curing sheds (656).
726. Vegetable and animal oil, fat; soap making.  
Production of crude oil, cake, and meal by crushing or extraction, from oilseeds and nuts; the extraction of fish and other marine animal oils; the rendering of inedible animal oils and fats; manufacture of margarine; and the refining and hydrogenation (or hardening) of oils and fats.  
Manufacture of soaps, detergents, and other washing and cleaning compounds, except where the process is chemical only, not involving oil or fat from livestock.  
Excluded are the manufacture of lard and other edible fats (711) and butter (712).
729. Beverages, Tobacco, Essential Oils not classified above.
720. Beverages, Tobacco, Essential Oils; insufficient information available to classify further.
73. Textiles.
731. Cotton gin.
732. Cotton spinning, weaving.  
Preparing cotton fibers, such as picking, carding, combing, carbonizing, spinning, and weaving of yarns and fabrics.  
Manufacture of narrow fabrics and other small wares; carpets and rugs; and lace, braids, and other primary textiles.  
Excluded are spinning and weaving of asbestos (688).
733. Wool or worsted spinning, weaving.  
Preparing wool and worsted fibers, such as scouring, carding, combing, carbonizing, spinning, and weaving of yarns and fabrics. Manufacture of narrow fabrics and other small wares; carpets and rugs; and lace, braids, and other primary textiles. Excluded are spinning and weaving of asbestos (688).
734. Mixed, blended, other fibers.  
Spinning, weaving, preparing mixed, blended, and other fibers such as flax, hemp, jute, silk, sisal, and synthetic fibers such as retting, scutching, scouring, carding, combing, carbonizing, throwing, spinning, and weaving. Manufacture of narrow fabrics and other small wares; carpets and rugs; and lace, braid, yarn, and other primary textiles.  
Excluded are spinning and weaving of asbestos (688).
735. Textile finishing plant.  
Bleaching, dyeing, printing, and finishing of all fabrics and fibers.
736. Knitting mills for all fibers.  
Included are mills engaged in producing hosiery, outerwear, underwear, and other knitwear.  
Excluded are the making of garments from knitted fabrics other than in knitting mills (742).
737. Cordage, rope, twine, net manufacture.  
Manufacture of rope, cable, cordage, twine, net, and other related goods from hemp, jute, cotton, paper, straw, coir, flax, and other fibers.
738. Floor covering, coated fabric manufacture, excluding rubber.  
Manufacture of linoleum and other hard surfaced floor coverings, artificial leather, oilcloth, and impregnated and coated fabrics.  
Excluded are the manufacture of rubber tile (747) and clay tile (681).
739. Textiles not classified above.  
Included are the manufacture of straw, coir, and similar matting and mats; felt by processes other than weaving; batting, padding, wadding, and upholstery filling from all fibers; the recovery of fibers from waste and rags.  
Excluded are the manufacture of wood-excelior upholstery filling (751).
730. Textiles; insufficient information available to classify further.
74. Footwear, Wearing Apparel, Leather, Rubber.

741. Footwear manufacture.  
Manufacture of all kinds of footwear, boots, shoes, cut stock, findings, leggings, and gaiters from leather, fabrics, plastics, wood, and other materials. Excluded are vulcanized footwear (747) and repair shops that make footwear on a custom basis (523).
742. Wearing apparel manufacture, excluding footwear.  
Manufacture of wearing apparel by cutting and sewing fabrics, leather, fur, and other materials; the making of hat bodies, hats, and millinery; and the manufacture of umbrellas and walking sticks. Excluded are the repair of wearing apparel in connection with the cleaning and pressing of these articles (796), tailoring and dressmaking (524), and shoe repair (523).
743. Made-up textile goods manufacture, excluding wearing apparel.  
Manufacturers who do no weaving and primarily engage in making up cloth goods such as house furnishings, trimmings of fabric, embroideries, and pennants. Included are stitching, pleating, and tucking for the trade.
744. Tanneries, leather finishing.  
Included are currying, finishing, embossing, and japanning of leather.
745. Fur products manufacture, excluding wearing apparel.  
Included are scraping, currying, tanning, bleaching, and dyeing of fur and other pelts; the manufacture of fur and skin rugs and mats, hatter's fur, and other fur, and skin articles; and fellmongery. Excluded are wearing apparel items manufactured from fur products (742).
746. Leather products manufacture, excluding footwear, wearing apparel.  
Manufacture of leather products and articles made of leather, and products and articles made of leather and leather substitutes, such as leather sporting goods. Excluded are the manufacture of wooden saddlery (753), the manufacture of footwear (741), and the manufacture of wearing apparel (742).
747. Rubber, rubber products manufacture.  
Manufacture of natural or synthetic rubber and all kinds of rubber products. The reclaiming of rubber from used tires, scrap, and miscellaneous waste rubber.
749. Footwear, Wearing Apparel, Leather, Rubber not classified above.
740. Footwear, Wearing Apparel, Leather, Rubber; insufficient information available to classify further.
75. Wood, Furniture, Paper, Printing.
751. Sawmill, planing mill, wood products mill.  
Manufacture of lumber products; wooden building materials and prefabricated parts and structures; cooperage and other wood stock; veneers and plywood; and excelsior. Included are areas doing preservation of wood; and sawmills and planing mills, whether or not mobile or operated in the forest. Excluded are the hewing and rough shaping of poles and other wood materials in the forest (662), and the manufacture of camping trailers and motor homes (784).
752. Manufacture and assembly of mobile and modular buildings.  
Included are manufacture of mobile homes.
753. Wood, cane, cork products manufacture.  
Included are manufacture of boxes, crates, drums, barrels, and other wooden containers; baskets and other rattan, reed, or willow containers; and small ware made entirely or mainly of wood, rattan, reed, willow, cane, or cork.
754. Furniture, fixture, bedding manufacture.  
Manufacture of household, office, restaurant, public building, and professional furniture; bedding and upholstery; office and store fittings and fixtures regardless of the materials used. Excluded are the manufacture of special medical furniture, equipment, fixtures, and machines (791).
755. Paper, pulp, paperboard manufacture.  
Manufacture of pulp from wood, rags, and other fibers; and of paper, paperboard, insulation board, and fiber building paper. Included are the coating, glazing, and laminating of paper and paperboard. Excluded are the manufacture of asphalt and tar-saturated paper (768), abrasive paper (687), sensitized paper (792), and carbon and stencil paper (799).
756. Paper, pulp, paperboard products manufacture.  
Manufacture of pressed and molded pulp goods and articles made of paperboard.
757. Newspaper or magazine printing, publishing.  
Printing, lithographing, and publishing newspapers, periodicals, magazines, trade journals, reviews, and related services.
758. Printing, publishing, allied industry.  
Included are commercial or job printing, lithographing, silk-screen printing; manufacture of greeting cards; looseleaf devices, library binders, bookbinding; blank book making, paper ruling; and other work related to bookbinding such as bronzing, gilding, and edging; mat and mounting; services for the printing trades such as typesetting, engraving, and etching steel and copper plates; making woodcuts; photoengraving; electrotyping and stereotyping. Excluded are type foundries (773) and engraving on precious metals (794).
759. Wood, Furniture, Paper, Printing not classified above.
750. Wood, Furniture, Paper, Printing; insufficient information available to classify further.
76. Chemical, Plastic, Petroleum.  
For the purpose of this classification, a chemical is a material that has had or will have a controlled change in the molecular structure or composition, not involving polymerization; while a plastic is a material whose molecule has been polymerized. Use division 61 for heavy water or for nuclear changes.
761. Industrial chemical manufacture.  
Manufacture of industrial organic and inorganic chemicals and industrial gases. Included are dry ice manufacturing plants. Excluded are all monomers and plastics plants (763).
762. Hazardous chemical manufacture.  
Manufacture of materials requiring special handling in manufacture, shipment, storage, or use. Included are explosives, blasting agents, fireworks, matches, unstable rocket propellants, pyroxylin (cellulose nitrate) plastics, hazardous monomers, and organic peroxides. Excluded are the manufacture and handling of nuclear materials (611).
763. Plastic manufacture.  
Manufacture of raw materials for plastics except those included in 762, and of synthetic resins, plastics, and elastomers.
764. Plastic product manufacture.  
Included are facilities making plastic furnishing, housings, enclosures, covers, linings, and machine parts whether by molding, extruding, or any other method.
765. Paint, varnish, lacquer, ink, wax, adhesive manufacture.  
Included are the manufacture of varnish stains and shellac, enamels, japans, polishes, and gelatin.



766. Drug, cosmetic, pharmaceutical manufacture.  
Manufacture of drugs, medicinal and pharmaceutical preparations, perfumes, cosmetics, and other toilet preparations.
767. Petroleum refinery, natural gas plant.  
Included are the manufacture of petrochemicals, producing products from crude petroleum and its fractionation products including asphalt, the manufacture of petroleum and petroleum products from coal and other materials, including blending of lubricating oils and greases, and refinery tankage.
768. Asphalt, coal product manufacture.  
Manufacture of asphalt tar or similar paving and roofing materials and fuel briquettes and packaged fuel.  
Included is the distillation of coal in coke ovens except as noted below.  
Excluded are the distillation of coal in coke ovens in iron and steel works (771) and the manufacture of coal gas (616).
769. Chemical, Plastic, Petroleum not classified above.
770. Chemical, Plastic, Petroleum; insufficient information available to classify further.
77. Metal, Metal Products.
771. Iron, steel manufacture.  
Manufacture of iron and steel shapes, consisting of all processes from smelting in blast furnaces to the semi-finished stage in rolling mills and foundries.  
Included are coke ovens associated with blast furnaces.
772. Nonferrous metal manufacture.  
Manufacture of nonferrous metal shapes.  
Included are the processes of smelting, alloying, and refining, rolling and drawing, and founding and casting, that are necessary to produce ingots, bars, billets, sheets, strips, castings, and extrusions.
773. Metal product manufacture.  
Transformation of metal forms into finished products such as household cutlery.  
Included are industries engaged in enameling, japanning, lacquering, gilding, galvanizing, plating, and polishing metal products; blacksmithing and welding.  
Excluded are plants manufacturing machinery (774), electrical equipment (775), silverware and jewelry (794), and specialized automobile, aircraft, and ship parts (division 78).
774. Machinery manufacture.  
Manufacture of machinery and prime movers other than electrical equipment.  
Included are machine shops engaged in producing and repairing machine and equipment parts, and the production of ball bearings and mechanical precision measuring instruments, as well as industrial engines, and measuring and dispensing pumps.  
Excluded are plants manufacturing electrical equipment (775) and engines or specialized parts for automobile, aircraft, and marine use (division 78).
775. Electrical equipment manufacture.  
Manufacture of machinery, apparatus, and supplies for the generation, storage, transmission, and transformation of electrical energy.  
Included are the manufacture of insulated wire and cable and the repair of electrical machinery.  
Excluded are instruments for measuring and recording electrical quantities and characteristics (791).
776. Electrical appliance, electronics equipment manufacture.  
Included are plants manufacturing electric lamps; computers, communication equipment, and related products including radios and television sets; phonographs; electric batteries; X-ray and therapeutic apparatus; electronic tubes and components as well as the repair of electrical appliances.  
Excluded are instruments for measuring and recording electrical quantities and characteristics (791).
779. Metal, Metal Products not classified above.
770. Metal, Metal Products; insufficient information available to classify further.
78. Vehicle Assembly, Manufacture.
781. Shipbuilding, repairing of vessels over 20 m (65 ft).  
Shipyards engaged in building and repair work on vessels over 20 m (65 ft) in length including barges, lighters, and tugs whether self-propelled or not.  
Included are specialized marine engines, masts, spars, rigging and ship parts manufacture, dry docks, and ship breaking yards.
782. Boat building, repairing of vessels 20 m (65 ft) and under.  
Boat yards engaged in building and repair work on vessels 20 m (65 ft) and under in length regardless of material used in manufacture and whether self-propelled or not. Included are facilities manufacturing specialized marine engines, outboard engines, masts, sails, rigging, and boat parts.
783. Railway equipment manufacture, assembly, repair.  
The building and rebuilding of locomotives and railroad or tramway cars for freight and passenger service, and the production of specialized parts for locomotive and railroad tramway cars.  
Included are shops operated by railway companies for the manufacture and repair of locomotives and cars.
784. Motor vehicle manufacture, assembly.  
Manufacture and assembly of motor vehicles such as automobiles, buses, trucks, truck trailers, universal carriers, motorcycles, motor scooters, camping trailers, and motor homes.  
Included are plants manufacturing motor vehicle parts and accessories.  
Excluded are plants principally manufacturing tires and tubes (747), automobile glass (682), electrical equipment (775), agricultural and road-building tractors and forklift trucks (774), facilities involved with motor vehicle repairs (573), and the manufacture of mobile homes or mobile buildings (752).
785. Bicycle manufacturing, assembly, repair.  
Manufacture of bicycles, tricycles, pedicabs, and parts.
786. Aircraft and rocket manufacturing, assembly, repair.  
Manufacture, assembly, and repair of airplanes, gliders, rockets, missiles, and aircraft parts such as engines, propellers, pontoons, and undercarriages.  
Excluded are the manufacture of electric and electronic equipment (775 or 776) and aeronautical instruments (791).
787. Manufacture of special transport equipment.  
Plants manufacturing special transport equipment such as animal-drawn and hand-drawn vehicles and parts for such vehicles such as wheels and axles.
789. Vehicle Assembly, Manufacture not classified above.
780. Vehicle Assembly, Manufacture; insufficient information available to classify further.
79. Other Manufacturing.  
Manufacturing industries not classified in any other division.

791. Instrument manufacture.  
Manufacture of measuring, controlling, laboratory, and scientific instruments, and surgical, medical, and dental instruments and supplies.  
Excluded are the manufacture of optical instruments for scientific and medical use (792), the manufacture of X-ray and electric therapeutic apparatus (776), and the production of measuring and dispensing pumps (774).
792. Photographic, optical goods manufacture.  
The manufacture of optical instruments and lens grinding; ophthalmic goods, photographic equipment and supplies, including sensitized film, plates, and paper.  
Included are plants manufacturing optical instruments for scientific and medical use.
793. Watch, clock manufacture.  
The manufacture of clocks and watches, clock and watch parts and cases, and mechanisms for timing devices.
794. Jewelry manufacture.  
Manufacture of jewelry, silverware, and plate-ware, using precious metals, precious and semiprecious stones, and pearls.  
Included are the cutting and polishing of precious and semiprecious stones, the striking of medals and coins, and engraving on precious metals.
795. Musical instrument manufacture.  
The manufacture of musical instruments, such as pianos, stringed instruments, wind instruments, and percussion instruments.  
Included is the manufacture of phonograph record blanks.  
Excluded are the manufacture of phonographs and speech recording machines (776).
796. Laundry, drycleaning plant. Mechanical and hand laundries.  
Included are plants supplying laundered linens (aprons, table covers, towels, napkins, or diapers) on a contract basis; cleaning, pressing, and dyeing, and performing minor repairs to apparel and household furnishings.
797. Photographic film processing laboratory.  
Processing of photographic film in special plants and centers.  
Excluded are film processing operations incidental to other operations, such as to newspaper offices or hospitals.
798. Toy, sporting good manufacturing not classified in other divisions.
799. Other Manufacturing not classified above. Included are plants manufacturing carbon and stencil paper.
790. Other Manufacturing; insufficient information available to classify further.
70. Manufacturing Property: Unclassified.
708. General maintenance shop not elsewhere classified.
709. Manufacturing Property not classified above.
700. Manufacturing Property; insufficient information available to classify further.
8. Storage Property.  
Storage properties are all buildings, structures, or areas utilized primarily for the storage or sheltering of goods, merchandise, products, vehicles, or animals; and incidental servicing, processing, and repair operations.  
Storage includes the resale (sale without transformation) of goods to businesses, institutions, and government, such as the resale of industrial and construction materials, machinery, and equipment; farm machinery, implements, and supplies; and business and professional equipment. Also included are warehousing, grading, sorting, breaking bulk, and repacking, which are associated with reselling. Repacking in airtight containers is canning and is classified in subdivisions 713 and 714.  
Storage properties are characterized by the presence of relatively small numbers of persons in proportion to the area. Any new use that increases the number of occupants to a figure comparable with other classes of properties changes the classification of the building to that of the new use. If substantial mercantile or office operations exist (10 customers or more present at busy period), reclassify where appropriate in major division 5 (Mercantile, Business Property).  
Waste disposal is classified in division 91.
81. Agricultural Products Storage.
811. Seeds, beans, nuts, silage storage in bulk.  
Storage of seeds, beans, grain, natural feed, hay, or nuts in bulk in bins, silos, or piles in the open or in cribs.  
Excluded are storage in barns (815) and storage in elevators (816).
812. Boxed, crated, packaged agricultural products storage.  
Agricultural products stored in boxes, crates, or cartons, regardless of packaging material or container size.
813. Loose, bagged agricultural products storage.  
Agricultural products stored in bags of any material or size, or stored loose.  
Excluded are bagged products inside cardboard boxes (812), loose tobacco storage (814), and bulk storage of seeds, feeds, beans, nuts, and grain (811).
814. Loose, baled tobacco storage.  
Tobacco stored in loose quantities or in bales, crates, hogsheds, or barrels before or after auction, but before manufacture of finished tobacco products.  
Excluded are tobacco curing sheds (656) and storage during processing (725).
815. Barns, stables.  
Included are facilities associated with farms, zoos, or wildlife preserves whether for providing restraint or protection for animals or for storage of feed.  
Excluded are silos (811).
816. Grain elevators. Included are soybean elevators.
817. Livestock storage.  
Storage of livestock at any point beyond the raising ranch or farm.  
Included are rail and truck stockyards and other livestock pens and yards.
818. Agricultural supply storage.  
Storage of materials for agricultural purchase. Included are hay, feed, seed, fertilizer, and nonmotorized farm implement stores.
819. Agricultural Products Storage not classified above.
810. Agricultural Products Storage; insufficient information available to classify further.
82. Textile Storage.
821. Baled cotton storage.  
Included are cotton compresses.
822. Baled wool, worsted storage.
823. Baled silk, synthetic fiber storage.
824. Baled jute, hemp, flax, sisal, other mixed or blended fiber storage.

825. Cloth, yarn storage.
826. Wearing apparel, garments, finished textile storage.
827. Leather, leather products storage.
328. Fur, skin, hair products storage.
829. Textile Storage not classified above.
820. Textile Storage; insufficient information available to classify further.
83. Processed Food, Tobacco Storage.
831. Packaged foodstuff storage.  
Foodstuffs stored in cardboard or paper packages.
832. Canned or bottled food, soft drink storage.  
Storage of canned or bottled foodstuffs.  
Included are plants that bottle materials made elsewhere.
833. Loose, bagged processed food storage.  
Processed foods stored in bulk or in bags of any material or size.  
Excluded are animal feed in hay, grain, seed, and feed stores (818), natural animal feed stored in bulk (811), and natural animal feed stored in bags (813).
834. Food locker plants.
835. Cold storage.
836. Bulk sugar storage.
837. Bulk flour, starch storage.
838. Packaged tobacco product storage.  
Storage of finished tobacco products in any type package.
839. Processed Food, Tobacco Storage not classified above.
830. Processed Food, Tobacco Storage; insufficient information available to classify further.
84. Petroleum Products, Alcoholic Beverage Storage.  
Included are gases of all kinds, flammable liquids, and combustible liquids, except those specifically mentioned in division 86 below, such as 865 for paint and varnish.  
Waste disposal is classified in division 91.
841. Flammable, combustible liquid tank storage.  
Included are airport fuel dispensing systems, bulk plants, terminals, and tank farms.  
Excluded are refinery tankage (767) and reservoir at oil wells (674).
842. Gasometer, cryogenic gas storage.
843. LP-Gas bulk plant.  
Excluded is filling individual cylinders for the public (571).
844. Missile, rocket fuel storage.  
Included are storage facilities at the manufacturing plant, launching site, and intermediate fixed storage locations.
845. Packaged petroleum products storage.
846. Alcoholic beverage storage.  
Storage of liquor, beer, wine, and other alcoholic beverages, whether in barrels, casks, kegs, or bottles.
849. Petroleum Products, Alcoholic Beverage Storage not classified above.
840. Petroleum Products, Alcoholic Beverage Storage; insufficient information available to classify further.
85. Wood, Paper Products Storage.
851. Lumberyard, building materials storage.  
Storage of lumber and building materials.  
Excluded are storage of timber, pulpwood, logs, and wood fuel while in the forest (662) or at sites awaiting use (856); and wood chips (666).
852. Wood products, furniture storage.
853. Fiber products storage.  
Storage of products made from fibers of ordinary combustible materials, such as fiberboard; or noncombustible fiber materials with combustible components such as fiberglass insulation.  
Included are pulp, felt, excelsior, and rope.
854. Rolled paper storage.
855. Paper, paper products storage.  
Included are cartons, bags, waste paper, and baled paper.  
Excluded are rolled paper (854) and pulp storage (853).
856. Timber, pulpwood, logs, wood fuel. Included are areas where timber, pulpwood, logs, and wood fuel are stored in bulk after leaving the forest and before processing or use.  
Excluded is storage in the forest (662).
859. Wood, Paper Products Storage not classified above.
850. Wood, Paper Products Storage; insufficient information available to classify further.
86. Chemical or Plastic, Chemical or Plastic Product Storage.  
For the purpose of this classification, a chemical is a material that has had or will have a controlled change in its molecular structure or composition, not involving polymerization; while a plastic is a material whose molecule has been polymerized.  
Waste disposal is classified in division 91.
861. Industrial chemical storage.
862. Hazardous chemical storage not specifically listed below.  
Excluded are radioactive materials (division 61).
863. Plastic, plastic product storage.
864. Fertilizer storage.  
Excluded is fertilizer storage in connection with agricultural supply storage.
865. Paint, varnish storage.
866. Drug, cosmetic, pharmaceutical storage.
867. Rubber, rubber products storage.
868. Photographic film storage.  
Storage of photographic films, new or exposed, including motion-picture film, X-ray film, industrial film, and hobby film.  
Included are picture distribution facilities such as film exchanges.
869. Chemical or Plastic, Chemical or Plastic Product Storage not classified above.
860. Chemical or Plastic, Chemical or Plastic Product Storage; insufficient information available to classify further.
87. Metal, Metal Product Storage.
871. Basic metal form storage.
872. Metal parts storage (often in trays or bins, or on racks).
873. Hardware storage. Included are storage of auto parts, auto accessories, tools, and plumbers' supplies.
874. Machinery storage.
875. Electrical appliance, supply storage.
876. Finished metal products storage (often in cartons or crates).
877. Scrap, junkyards.  
Excluded are refuse dumping and recycling areas (division 91).
879. Metal, Metal Products Storage not classified above.
870. Metal, Metal Products Storage; insufficient information available to classify further.
88. Vehicle Storage.

881. Residential parking garage.  
Parking of motor vehicles in one-story residential garages. Included are detached residential garages or residential garages separated from another structure by a fire division assembly.  
Excluded are attached garages to single-family dwellings (411) and general vehicle parking garages (882).
882. General vehicle parking garage.  
Parking of vehicles of various ownership in facilities under the direction of one management.  
Excluded are facilities for repair of motor vehicles (573), dwelling or one-story residential garages (881), and garages for public works vehicles and dump trucks (884).
883. Bus, truck, auto fleet, automobile dealer storage.  
Parking of motor vehicles of the same ownership and management. Included are truck parking, auto fleet parking, bus parking, trackless trolley parking, and taxicab parking.  
Excluded are machinery and equipment storage (884).
884. Heavy machine, equipment storage.  
Parking of road, farm, and contracting equipment in a suitably managed location.  
Included are storage of public works vehicles, construction and earth-moving equipment, dump trucks, and cranes.
885. Boat, ship storage. A marine parking "garage."  
Docking and mooring facilities for boats in the water. Included are launching facilities and storage of boats and ships for relatively long periods of time.  
Excluded are yacht club buildings (143), boat repairing yards (782), and marine service stations (577).
886. Aircraft hangar.
887. Railway storage.  
Included are locomotive storage, car storage, and track repair equipment storage, and all fixed railroad storage facilities.  
Excluded are railroad yards and signaling and switching facilities (division 95).
888. Fire stations.
889. Vehicle Storage not classified above.
880. Vehicle Storage; insufficient information available to classify further.
89. General Item Storage.
891. General warehouse.  
Excluded are warehouses storing mainly wood furniture (852), warehouses storing mainly foodstuffs (division 83), and warehouses storing mainly textiles (division 82).
892. Bagged mineral products storage.  
Included are storage facilities for cement, lime, and gypsum.
893. Packaged mineral products storage.  
Included are storage facilities for glass, clay products, pottery, and earthenware.
894. Freight terminal.
895. Coal, coke briquette, charcoal storage.  
Storage of solid fuels in bags, boxes, or bulk.  
Excluded are wood fuel storage facilities (662).
896. Military stores, national defense storage not elsewhere classified.
897. Ice storage.  
Storage of natural and manufactured ice.  
Included are separate, detached, portable coin-operated storage and dispensing units.
898. Wharf, pier.
899. General Item Storage not classified above.
890. General Item Storage; insufficient information available to classify further.
80. Storage Property: Unclassified.
808. Tool shed, contractor's shed. Included are sheds used primarily for storage.  
Excluded are sheds used as field offices (591).
809. Storage Property not classified above.
800. Storage Property; insufficient information available to classify further.
9. Special Property.  
These properties are not readily classified in any of the preceding major divisions. They include mainly outdoor properties.  
Fixtures such as signs, fences, and poles that are usually on outdoor property are not separate specific property uses. The specific property use upon which this item is located should be identified. The sign, fence, or fixture, if involved in ignition, should be identified in the appropriate sections of Chapter 6.
91. Landfills, Dumps, and Recycling Facilities.
911. Managed nonhazardous refuse disposal site.
912. Unmanaged nonhazardous refuse disposal site.
913. Managed hazardous materials waste disposal site.
914. Unmanaged hazardous materials waste disposal site.
915. Temporary hazardous materials waste disposal site.
916. Recycling facility.
919. Landfills, Dumps, and Recycling Facilities not classified above.
910. Landfills, Dumps, and Recycling Facilities; insufficient information to classify further.
92. Special Structures.
921. Bridge, trestle.  
Included are overhead or elevated structures, such as overpasses, elevated roads, and railways.
922. Tunnel.
923. Public mailbox.
924. Toll station.
925. Shelter.  
Included are storm, tornado, bomb, fallout, weather, and bus shelters designed for short term, intermittent use.
926. Outbuilding, excluding garage.  
Included are privies and collection sheds (boxes) used for temporary storage of miscellaneous items for routine pickup by charitable organizations.
927. Outdoor telephone booth.
928. Aerial tramway.  
Included are ski lifts and chair lifts.
929. Special Structures not classified above.
920. Special Structures; insufficient information available to classify further.
93. Outdoor Properties.
931. Open land, field  
Included are lands of grass, herbaceous plants (weeds), and brush usually used for grazing (pasture land), wildlife habitat, and undeveloped recreation areas.  
Excluded are campsites with utilities (935), graded and cared-for plots of land (938), and improved fenced pasture land (655).
932. (This subdivision not used in this edition.)
933. Residential yards. Included are the cared-for spaces around residential property.
934. Cemetery.
935. Campsite with utilities.  
Included are facilities for camping trailers, pick-up truck mounted campers, motor homes, and travel trailers.  
Excluded are unimproved camping areas (931).

936. Vacant lot.  
Included are uncared-for plots of land.  
Excluded are graded and cared-for plots of land (938).
937. Beaches, seashores, riverfront areas (salt or fresh water).  
Excluded are piers (898).
938. Graded and cared-for plots of land.  
Included are parks.  
Excluded are residential yards (933), open land and fields (931), campsites with utilities (935), playgrounds (124), and improved fenced pasture land or land used for crops (655).
939. Outdoor Properties not classified above.
930. Outdoor Properties; insufficient information available to classify further.
94. Water Areas.
941. In open sea, tidal waters.
942. Within designated port, channel, anchorage.
943. Alongside quay, pier, pilings.  
Excluded are flammable liquid or gas loading and unloading facilities (944).
944. At flammable liquid or gas loading, unloading facility.
945. Storm drain, flood control culvert.
946. Inland water area. Included are lake, pond, river or stream, and the like.
949. Water Areas not classified above.
940. Water Areas; insufficient information available to classify further.
95. Railroad Property.  
Included are railroad, subway, railway, trolley, and other fixed rail property.  
See classification 921 for bridges and trestles and classification 922 for tunnels.
951. Railroad right of way.  
Included are the areas marked by fence or 9 m (30 ft) beyond ballast on each side.  
Excluded are switch yards (952), and sidings (953).
952. Switch yard, marshalling yard.
953. Siding.  
The spurs within an industrial plant or other property.
954. Railroad signaling, switch control equipment location.
959. Railroad Property not classified above.
950. Railroad Property; insufficient information available to classify further.
96. Road, Parking Property.  
See classification 921 for bridges and trestles and classification 922 for tunnels.
961. Limited-access highway, divided highway.
962. Paved public street.  
Included are associated parallel or diagonal parking on right of way.  
Excluded are limited-access and divided highways (961).
963. Paved private street, way.  
Included are paved driveways.  
Excluded are uncovered parking areas (965).
964. Unpaved street, road, path.  
Included are unpaved driveways.
965. Uncovered parking area.  
Included are open parking lots, rest stops, and open car stacking mechanisms.  
Excluded are driveways (963), covered parking garages (882), and campsites with utilities (935).
969. Road, Parking Property not classified above.
960. Road, Parking Property; insufficient information available to classify further.
97. Aircraft Areas.
971. In flight.
972. On runway.  
Included are the approach and overrun areas.
973. On taxiway, uncovered parking area, maintenance area.  
Included  
Excluded are aircraft hangars (886).
974. At loading ramp.
979. Aircraft Areas not classified above.
970. Aircraft Areas; insufficient information available to classify further.
98. Outside Equipment Operating Areas.
981. Construction site.  
Excluded are oil and gas fields (982). Classify buildings or structures under construction or demolition by their proposed or former use.
982. Oil, gas field.
983. Pipeline, power line right of way.
984. Industrial plant yard area.  
Excluded are parking areas (965), areas designated as outdoor storage in the yard, or areas that have another specific use.
989. Outside Equipment Operating Areas not classified above.
980. Outside Equipment Operating Areas; insufficient information available to classify further.
90. Special Properties: Unclassified.
909. Special Properties not classified above.
900. Special Properties; insufficient information available to classify further.
00. Specific Property Use: Unclassified.
097. Vacant Structure unable to be classified elsewhere.
098. Specific Property Use not applicable.
099. Specific Property Use not elsewhere classified.
000. Specific Property Use undetermined or not reported.

#### 4-8 Mobile Property.

**4-8.1** Mobile property is property that is designed to be movable in relation to fixed property whether or not it still is. Mobile property is always located on a specific property, and, when mobile property is involved, the specific property should always be reported as well.

**4-8.2** When mobile property is involved, the reporting of the following data is critical for proper identification of the property:

- Model year.
- Name of manufacturer or brand name.
- Model name or model number if there is one.
- Manufacturer's serial number or Vehicle Identification Number (VIN).
- License or registration number including the state or agency issuing the license or registration.

#### 4-8.3 Mobile Property Type.

**4-8.3.1** This data element is used to record the specific type of mobile property involved, whether the property is still mobile or not.

**4-8.3.2\*** Where mobile property type is to be classified, the following classification numbers should be used.

**1. Passenger Road Transport Vehicles.**

Motor vehicles such as automobiles, buses, or mobile homes used primarily for transporting or housing people.  
Included are abandoned vehicles.

11. Automobile.  
Included are taxicabs, limousines, race cars, and ambulances.
12. Bus, trackless trolley.  
Included are school buses.
13. All terrain vehicles.  
Included are golf carts, snowmobiles, and dune buggies.  
Excluded are motorcycles (18).
14. Motor home.  
A mobile unit containing its own motive power.  
Included are pickup truck mounted campers and bookmobiles.
15. Travel trailer.  
A portable structure built or placed on a chassis and designed to be pulled by a vehicle.
16. Camping trailer.  
A collapsible portable structure built on a chassis and designed to be pulled by a vehicle.
17. Mobile home, mobile building.  
A structure built on a chassis and designed to be pulled by a vehicle to a semipermanent site.  
Included are mobile classrooms, mobile banks, mobile office buildings, whether on wheels, off their wheels on jacks, or on a foundation.
18. Motorcycle.
19. Passenger Road Transport Vehicles not classified above.
10. Passenger Road Transport Vehicles; insufficient information available to classify further.

**2. Freight Road Transport Vehicles.**

Vehicles primarily for transporting goods.

Included are abandoned vehicles.

Excluded are materials handling equipment (63).

21. General use trucks over 97 kg (one ton) net weight.  
Included are solid chassis trucks, mail trucks, dump trucks, and fire apparatus.
22. General use small trucks, 97 kg (one ton) net weight or less.  
Included are pickups, wagons, and nonmotorized hauling rigs.
23. Semitrailer truck with or without tractor.
24. Tank truck for nonflammable cargo.
25. Tank truck for flammable or combustible liquid, chemical.
26. Tank truck for compressed gas or LP-Gas.
27. Trash truck.  
Included are refuse rendering and waste collection vehicles.
29. Freight Road Transport Vehicles not classified above.
20. Freight Road Transport Vehicles; insufficient information available to classify further.

**3. Rail Transport Vehicles.**

Railroad, subway, railway, trolley car, and other rail vehicles are included.

31. Passenger, diner car.
32. Freight, box, hopper car.
33. Tank car.
34. Container, piggyback car.
35. Locomotive, engine.

36. Self-powered rail car.  
Included are trolley and rapid transit cars.  
Excluded are trackless trolleys (12).

37. Maintenance equipment, car.  
Included are cabooses and cranes.

39. Rail Transport Vehicle not classified above.

30. Rail Transport Vehicle; insufficient information available to classify further.

**4. Water Transport Vessels.**

Included are all water vessels, irrespective of ownership.

41. Motor craft under 20 m (65 ft) length overall.  
Vessels under 20 m (65 ft) length overall.  
Excluded are commercial fishing vessels (48).
42. Vessel under 907 metric tons (1000 gross tons).  
Vessels over 20 m (65 ft) length overall, but under 907 metric tons (1000 gross tons).  
Included are water taxis, industrial vessels, and "yachts."
43. Passenger ship.
44. Tank ship.
45. Combat ship.
46. Cargo ship.  
Vessels not classified in subdivisions 41, 42, 43, 44, and 45.
47. Non-self-propelled vessel.  
All vessels without their own motive power.  
Included are towed petroleum balloons, barges, and other towed or towable vessels.  
Excluded are sailboats (49).
48. Commercial fishing vessel.  
Included are vessels on inland, coastal, and ocean waters, and operation of oyster beds, fish hatcheries, and factory vessels.  
Excluded are fish hatcheries themselves (specific property use 665).
49. Water Transport Vessels not classified above.  
Included are sailboats without auxiliary power.
40. Water Transport Vessels; insufficient information available to classify further.

**5. Air Transport Vehicles.**

Transport by air of passengers and freight, whether by regular services or by private charter.

51. Personal, business, utility aircraft under 5670 kg (12,500 lb) gross weight.
52. Personal, business, utility aircraft 5670 kg (12,500 lb) gross weight and over.
53. Commercial transport aircraft, reciprocating engine powered, fixed wing.
54. Commercial transport aircraft, jet and other turbine powered, fixed wing.
55. Nonmilitary helicopters, vertical takeoff aircraft.
56. Combat-type military aircraft (attack bombers, fighters, patrol).
57. Noncombat-type military aircraft (cargo, training, utility, reconnaissance).
59. Air Transport Vehicles not classified above.  
Included are gliders and kites.
50. Air Transport Vehicles; insufficient information available to classify further.

**6. Heavy Industrial and Agricultural Equipment.**

61. Earth-moving equipment.  
Included are bulldozers, shovels, graders, scrapers, trenchers, and plows.

62. Construction equipment.  
Included are water drilling equipment, pile drivers, tunneling equipment, air compressors, and the like.
  63. Materials handling equipment.  
Included are fork lifts, industrial tow motors, loaders, and stackers.
  64. Crane.
  65. Tractor, harvester, picker.
  66. Drilling rig for petroleum and gas only.
  67. Timber harvest equipment.
  69. Heavy Industrial and Agricultural Equipment not classified above.
  60. Heavy Industrial and Agricultural Equipment; insufficient information available to classify further.
7. Special Mobile Property, Military Vehicles.
71. Garden equipment.  
Included are power driven lawn, yard, and snow equipment.
  72. (This subdivision not used in this edition.)
  73. Mechanically moved shipping container.
  74. Armored equipment.  
Included are armored cars and military vehicles.
  75. Manned, unmanned space vehicles.  
Included are rockets and missiles. For launching site, see specific property use 631.
  79. Special Mobile Property, Military Vehicles not classified above.
  70. Special Mobile Property, Military Vehicles; insufficient information available to classify further.
9. Other Mobile Property Types.
98. Mobile Property Type not applicable.
  99. Mobile Property Type not classified above.
  00. Mobile Property Type undetermined or not reported.

#### 4-9 Property Management.

**4-9.1** This data element can be used to distinguish between entities that control or manage property. The source for this data is often the Assessor's Office or fire prevention records. In post-incident documentation where the incident spreads over multiple properties, the ownership and/or property management of the property where the incident started should be recorded.

**4-9.2** Where property management is to be classified, the following classification numbers should be used.

1. Private tax-paying property.
2. Private non-tax-paying property.
3. City, town, village, or other local government property.
4. County or parish government property.
5. State, province government property, except military.
6. Central, federal government property, except military.
7. Foreign government property.
8. Military property.
9. Property Management not classified above.
0. Property Management undetermined or not reported.

## Chapter 5 Structure Characteristics

**5-1 Purpose and Application.** When collected in pre-fire surveys, the information may be used in connection with address

and census tract information for the purposes of fire flow calculations and for allocating and deploying fire suppression resources throughout a jurisdiction. Similarly when this information is recorded after an incident occurs, it may be used with geographic designators and supplemented with incident frequency and mutual aid information to analyze the effectiveness of current fire suppression resource allocation and deployment.

**5-2 Limitations.** The use of the data elements in this chapter should be limited to reporting information on structures.

#### 5-3 Definition.

**Structure.** An assembly of materials forming a construction for occupancy or use in such a manner as to serve a specific purpose. A building is a form of a structure. Open platforms, bridges, roof assemblies over open storage or process areas, tents, air-supported structures, and grandstands are other forms of a structure.

#### 5-4 Structure Features.

##### 5-4.1 Type of Construction.

**5-4.1.1** This data element is used to measure the type of construction of the structure. The construction types are taken from NFPA 220, *Standard on Types of Building Construction*. Fire-resistive ratings are determined by NFPA 251, *Standard Methods of Tests of Fire Endurance of Building Construction and Materials*. Both Type III and Type IV have exterior bearing walls of non-combustible construction having a minimum fire resistance of 2 hours and stability under fire conditions, while roofs, floors, and interior framing are of combustible materials. The combustible materials must be heavier and stronger in Type IV construction.

**5-4.1.2** Categories from the three model codes listed below are also given to maintain uniformity in data classification.

The BOCA® National Building Code (NBC) (formerly the Basic Building Code).

Standard Building Code (SBC) (formerly the Southern Building Code).

Uniform Building Code (UBC).

**5-4.1.3** Where type of construction is to be classified, the following classification numbers should be used.

1. TYPE I — Structural members, including walls, columns, beams, floors, and roofs are of approved noncombustible or limited combustible materials having high fire-resistive ratings. Structural frame at least 3 hours. (Previously called Fire Resistive.) Included are NBC Types 1A, 1B; SBC Type I, III; UBC Type I.
2. TYPE II — Structural members, including walls, columns, beams, floors, and roofs are of approved noncombustible or limited combustible materials having fire-resistive ratings of 2 hours or less. (Previously called Noncombustible.) Included are NBC Types 2A, 2B, 2C; SBC Type IV; UBC Type II.
3. TYPE III — Exterior walls are of noncombustible or limited combustible materials, and interior structural members including walls, columns, beams, floors, and roofs are of combustible materials. (Previously called Ordinary.) Included are NBC Types 3B, 3C; SBC Type V; UBC Type III.

4. TYPE IV — Exterior walls are of noncombustible or limited combustible materials, and interior structural members including columns, beams, arches, floors, and roofs are of solid wood at least 51 mm (2 in.) nominal qualifying as heavy timber under NFPA 220, *Standard on Types of Building Construction*, 3-4.2 through 3-4.6. (Previously called Heavy Timber.) Included are NBC Type 3A; SBC Type III; UBC Type IV.
5. TYPE V — Exterior walls, bearing walls, and floors and roofs and their supports are wholly or partly of wood or other combustible material in dimensions smaller than those required in TYPE IV. (Previously called Wood Frame.) Included are NBC Types 4A, 4B; SBC Type VI; UBC Type V.
9. Type of Construction not classified above.
0. Type of Construction undetermined or not reported.

## 5-4.2 Method of Construction.

**5-4.2.1** This data element is used to measure the method by which the structure was constructed. In cases where different methods of construction were used in construction, the principal method should be considered as the primary fire defense present in the structure. This data may be used where a more detailed description of construction would be helpful.

**5-4.2.2** Where method of construction is to be classified, the following classification numbers should be used.

1. Site built structure.
2. Factory built, site assembled structure.
3. Factory built modular structure.
4. Factory built mobile structure.
9. Method of Construction not classified above.
0. Method of Construction undetermined or not reported.

**5-4.3 Year of Construction or Total Renovation.** The estimated year in which a structure was built or underwent major renovation is an important determinate in the fire defenses contained in the applicable building codes. The date should represent the date the structure was constructed or was totally renovated and brought up to complete compliance with a more recent building code.

**5-4.4 Structure Height or Depth.** It is important for emergency service agencies to know the structure height and the distance below grade. This information helps with pre-fire planning, quickly illustrating how much of the building is unavailable to ladders. Some departments even use this information to help them assign "life safety hazard" values to buildings in their jurisdiction; the harder it is for people to leave or be rescued, the higher the life safety hazard value.

**5-4.4.1** Structure height is the distance from grade to highest structural member or peak, not including flag poles, antennas, and the like. It should be recorded in feet or meters, not stories. The units of measure must be consistent throughout the application.

**5-4.4.2** Structure depth or distance below grade is the distance from grade to the floor level of the lowest story that provides usable floor space and where there is room for a person to stand. It does not include pits and small vaults or machinery areas where the equipment must be removed to be serviced. Structure depth should be recorded in feet or meters, not stories. The units of measure must be consistent throughout the application.

**5-4.5 Number of Stories.** The total number of stories in a structure is often important in determining the total volume of the structure and its potential fire loading. If number of stories is recorded, it should be done consistently and should include all below grade and above grade stories. A mezzanine should be considered as an additional story where the building code defines the area as a mezzanine. Unused crawl spaces and unused ceiling/roof spaces should not be considered as additional stories.

**5-4.6 Floor Area.** There are many reasons for recording the size of floor areas. One is the total floor area of a structure on all usable stories. This information is useful in calculating fire flow requirements for the structure. Another is the ground story floor area of a structure. This information is useful in understanding the general size of the structure and the resources that may be needed to deal with an emergency at the property. A third measurement that is useful is the total floor area involved in the incident. This is useful in assessing the magnitude and when compared with the total floor area of the structure will often impact what the property owner can do in renovation. Floor area should be recorded in square feet or square meters. The units of measure must be consistent throughout the application.

## 5-4.7 Structure Type.

**5-4.7.1** This data element is used to describe the type of structure on a specific property. Structure type is useful in understanding fire behavior and the potential for loss of life and property.

**5-4.7.2** Where structure type is to be classified, the following classification numbers should be used.

1. Enclosed building. Included are buildings with earthen walls and fabricated roofs.
2. This classification not used in this edition.
3. Open structure. Included are roofs with no walls, open steel framing, bridges, trestles, outdoor process equipment, and outdoor tanks.
4. Air-supported structure.
5. Tent. Included are membrane structures.
6. Open platform. Included are piers and wharves without superstructure, loading docks without roof, and the like.
7. Underground structure. Included are earth covered structures, tunnels, and mines.
8. Not a structure.
9. Structure Type not classified above.
0. Structure Type undetermined or not reported.

**5-4.8 Property Value.** Property value should include the estimated total value of any building or structure, machinery and equipment, and contents. It does not include the value of the land. If structure and content value are to be recorded separately, machinery and equipment should be included with the contents value. Values should be recorded only to the whole dollar level.

Property values, even though they may be estimates that may change significantly with time, provide vital trending and management information necessary for the development and allocation of resources.

## 5-4.9 Structure Status.

**5-4.9.1** Structure status when used in conjunction with specific property use (Chapter 4) can help to identify the likely



effectiveness of fire protection that existed prior to or at the time of an incident.

**5-4.9.2** Where structure status is to be classified, the following classification numbers should be used.

1. Under construction. The specific property use should show its intended use.
2. In use with furnishings in place and the property being routinely used.
3. Idle with furnishings in place but the property is not being routinely used.
4. Under major renovation. The specific property use should show its new intended use.
5. Vacant but property secured and maintained. The specific property use should show its last significant use.
6. Abandoned with property unsecured and not maintained. The specific property use should show its last significant use.
7. Being demolished. The specific property use should show its last significant use.
9. Structure Status not classified above.
0. Structure Status undetermined or not reported.

## 5-5 Allowable Occupancy.

**5-5.1 Number of Occupants.** The number of occupants is a measure of the legal number of people allowed to be inside the structure at the time of its maximum allowable occupancy. This classification can also be used to document the actual number of occupants whether or not above the legal maximum. For details, see NFPA 101®, *Life Safety Code*®.

### 5-5.2 Age and Ability of Occupants.

**5-5.2.1** The percentage of people normally in the building who will have difficulty with evacuation can be estimated. When the population of a building consists largely of senior citizens or other persons who are physically inconvenienced or mentally impaired in a manner that will interfere with prompt exit, the difficulties of evacuation increase.

**5-5.2.2** Where age and ability of occupants is to be classified, the following classification numbers should be used.

1. Less than 10 percent of the occupants under age 5 or over age 62 or physically inconvenienced or mentally impaired.
2. 10 to 49 percent of the occupants under age 5 or over age 62 or physically inconvenienced or mentally impaired.
3. 50 to 100 percent of the occupants under age 5 or over age 62 or physically inconvenienced or mentally impaired.
8. No occupants.
0. Age and Ability of Occupants undetermined or not reported.

## 5-6 Compartment Characteristics.

### 5-6.1 Protection of Stairways and Vertical Shafts.

**5-6.1.1** This data element measures the fire protection provided to all openings in stairways and vertical shafts. Vertical shafts include mechanical shafts, elevator shafts, exhaust shafts, escalators, ramps, and the like.

In order to qualify as a standard enclosure, all components must be appropriate for the opening, labeled for use for the protection intended, properly installed, and fully operational. All fire-rated doors must include labeled doors and frames that close and latch properly.

**5-6.1.2** Where the protection of stairways or vertical shafts is to be classified, the following classification numbers should be used.

1. Standard enclosure, with labeled doors and frames, standard installation of labeled dampers, all openings fire stopped.
2. Standard enclosure, with labeled doors and frames, standard installation of labeled dampers, some openings not fire stopped.
3. Enclosure present with non-labeled doors or dampers, all openings fire stopped.
4. Enclosure present with non-labeled doors or dampers, improperly installed doors or dampers, or some openings not fire stopped.
5. Enclosure present but doors do not close and latch, dampers are not operational, or other impairments compromise the enclosure.
6. Enclosure present, compliance with standard not determined.
7. Nonenclosed openings between one or more floors.
8. No shafts, escalators, ramps.
9. Protection of Stairways and Vertical Shafts not classified above.
0. Protection of Stairways and Vertical Shafts undetermined or not reported.

### 5-6.2 Interior Finish.

**5-6.2.1** Interior finish is the material used to cover the walls, the ceiling, and the floor of an area. Included are thick surfacing such as paneling and carpet. Excluded are thin surfacing such as wallpaper and paint. The location of the interior finish being evaluated must be reported for the data to have relevance.

**5-6.2.2** Where the interior finish is to be classified, the following classification numbers should be used.

1. Combustible wall, combustible ceiling, and combustible floor finish.
2. Combustible wall, combustible ceiling, and noncombustible floor finish.
3. Combustible wall, noncombustible ceiling, and combustible floor finish.
4. Combustible wall, noncombustible ceiling, and noncombustible floor finish.
5. Noncombustible wall, combustible ceiling, and combustible floor finish.
6. Noncombustible wall, combustible ceiling, and noncombustible floor finish.
7. Noncombustible wall, noncombustible ceiling, and combustible floor finish.
8. Noncombustible wall, noncombustible ceiling, and noncombustible floor finish.
9. Interior Finish not classified above.
0. Interior Finish undetermined or not reported.

### 5-6.3 Interior Finish Substrate or Solid Supporting Material.

**5-6.3.1** This data element is to be used with the data element "Finish on Substrate or Solid Supporting Material" (see 5-6.4) in identification of interior finish substrate and the finishes used on them. If more than one material exists, the principal material used should be identified.

**5-6.3.2** Where the interior finish substrate or solid supporting material is to be classified, the following classification numbers should be used.

1. Masonry, concrete, plaster.
2. Gypsum board.
3. Mineral board, noncombustible composite board.
4. Glass.
5. Metal.
6. Plastic.
7. Wood, plywood, particle board.
8. Fiberboard, combustible composite board.
9. Interior Finish Substrate not classified above.
0. Interior Finish Substrate undetermined or not reported.

#### **5-6.4 Finish on Substrate or Solid Supporting Material.**

**5-6.4.1** This data element is to be used with the data element "Interior Finish Substrate or Solid Supporting Material" (see 5-6.3) in identification of interior finish substrate and the finishes used on them. If more than one material exists, the principal material should be identified.

**5-6.4.2** Where the finish on substrate or solid supporting material is to be classified, the following classification numbers should be used.

1. Wallpaper.
2. Vinyl wall covering.
3. Paint, stain.
4. Varnish.
5. Carpet.
6. Textiles, fabric.
8. None.
9. Finish on Substrate not classified above.
0. Finish on Substrate undetermined or not reported.

#### **5-7 Compartment Quality.**

##### **5-7.1 Protection of Floor Openings.**

**5-7.1.1** This data element is used to measure the fire protection provided for floor openings. Floor openings include the floor to curtain wall connection; pipe, conduit and cable poke-through, and other openings.

**5-7.1.2** Where the protection of floor openings is to be classified, the following classification numbers should be used.

1. All openings fully fire stopped or protected.
2. Some openings only partially fire stopped or protected.
3. Some openings not fire stopped or protected.
4. All openings not fire stopped or protected.
8. No floor openings.
9. Protection of Floor Openings not classified above.
0. Protection of Floor Openings undetermined or not reported.

##### **5-7.2 Protection of Openings in Horizontal Barriers.**

**5-7.2.1** This data element is used to measure the fire protection provided in horizontal fire barrier openings. Horizontal openings in stairways and shaft walls should be reported using the data element "Protection of Stairways and Vertical Shafts" (see 5-6.1).

"Fire division walls" are walls with a two-hour or longer fire rating.

"Fire-rated walls" are walls with a thirty-minute or longer fire rating.

**5-7.2.2** Where the protection of openings in horizontal barriers is to be classified, the following classification numbers should be used.

1. All openings in fire division walls fully protected.
2. Openings in fire division walls not fully protected.
3. No protection to openings in fire division walls.
4. All openings in fire-rated walls fully protected.
5. Openings in fire-rated walls not fully protected.
6. No protection to openings in fire-rated walls.
8. No horizontal protection required.
9. Protection of Openings in Horizontal Barriers not classified above.
0. Protection of Openings in Horizontal Barriers undetermined or not reported.

#### **5-8 Roof Covering.**

**5-8.1** This data element is used to measure the type of roof covering on a structure. The roof covering is the outermost layer of material designed to protect the structure from the rain and elements. The knowledge of roof covering combustibility provides the basis for evaluation of the ignition potential of the roof and its potential role in fire spread. The roof covering classification is established by tests as outlined in NFPA 256, *Standard Methods of Fire Tests of Roof Coverings*.

**5-8.2** Where the roof covering is to be classified, the following classification numbers should be used.

1. Class A or Class B roof covering.
2. Class C roof covering of composition or prepared materials. Included are asphalt shingles.
3. Class C roof covering of treated and listed wood shingles and wood shakes.
4. Untreated wood shingles, shakes.
5. Nonrated roof covering.
8. Structure without roof.
9. Roof Covering not classified above.
0. Roof Covering undetermined or not reported.

#### **5-9 External Exposure.**

**5-9.1** This data element is used to measure the exposure to the structure from potential fires outside of the structure. NFPA 80A, *Recommended Practice for Protection of Buildings from Exterior Fire Exposures*, should be used as a guide in determining exposure severity.

**5-9.2** Where the external exposure is to be classified, the following classification numbers should be used.

1. Light exposure, adequate protection provided.
2. Light exposure, inadequate protection provided.
3. Moderate exposure, adequate protection provided.
4. Moderate exposure, inadequate protection provided.
5. Severe exposure, adequate protection provided.
6. Severe exposure, inadequate protection provided.

8. No exposure.
9. External Exposure not classified above.
0. External Exposure undetermined or not reported.

#### 5-10 Perimeter Access.

**5-10.1** This data element is used to measure the number of sides of the structure that have at least 30 ft (10 m) of clear access for fire-fighting operations. Clear access facilitates fire department suppression operations and will help limit exposure fire potential. Access areas need not be capable of supporting the weight of fire apparatus but must be capable of providing clear access for fire department operations.

**5-10.2** When perimeter access is to be classified, the following classification numbers should be used.

1. 30 ft (10 m) or more access on one side.
2. 30 ft (10 m) or more access on two sides.
3. 30 ft (10 m) or more access on three sides.
4. 30 ft (10 m) or more access on four sides.
5. No sides with access of 30 ft (10 m) or more.
0. Perimeter Access undetermined or not reported.

#### 5-11 Electrical Service Quality.

**5-11.1** This data element is used to measure the quality of the electrical service based upon a physical survey of the property and readily observed conditions of electrical equipment and wiring.

**5-11.2** Where the electrical service quality is to be classified, the following classification numbers should be used.

1. Visible frayed or damaged wire insulation.
2. Temporary wiring or extension cords used in place of permanent wiring.
3. Metal junction boxes without connectors at cable entry points noted.
4. Heat at fuses, circuit breakers, or panel box noted.
5. Overfused circuits noted.
6. Fluorescent lights with "old" ballasts mounted on combustible fiberboard ceilings.
7. Several of the above.
8. No electrical service deficiency noted in building or structure.
9. Electrical Service Quality not classified above.
0. Electrical Service Quality undetermined or not reported.

#### 5-12 Heating Service Quality.

**5-12.1** This data element is used to measure the quality of the heating system in the facility based upon observation made through a physical survey of the premises.

**5-12.2** Where the heating service quality is to be classified, the following classification numbers should be used.

1. Odor of gas or fuel gases noted.
2. Evidence of charring or smoke stains around chimney connector or flues.
3. Holes in chimney connector or flue noted.
4. Leaking valve or pipe.
5. Chimney connector hanger(s) missing.

7. Several of the above.
8. No heating service deficiency noted in building or structure.
9. Heating Service Quality not classified above.
0. Heating Service Quality undetermined or not reported.

#### 5-13 Control of Smoking Practices.

**5-13.1** This data element is used to measure the control placed on smoking throughout the facility based upon observations made through a physical survey of the premises.

**5-13.2** Where the smoking practice quality is to be classified, the following classification numbers should be used.

1. Smoking permitted throughout the premises without restriction.
2. Smoking restricted in a few special "No Smoking" areas — not adequately marked or evidence of violation noted.
3. Smoking restricted to a few special "Smoking" areas — not adequately marked or evidence of violation noted.
4. Smoking restricted in a few special "No Smoking" areas — adequately marked and no evidence of violation noted.
5. Smoking restricted to a few special "Smoking" areas — adequately marked and no evidence of violation noted.
6. No smoking permitted on premises — evidence of violation noted.
7. No smoking permitted on premises — no evidence of violation noted.
9. Control of Smoking Practices not classified above.
0. Control of Smoking Practices undetermined or not reported.

#### 5-14 Fuel Control.

##### 5-14.1 Solid Kindling Fuels.

**5-14.1.1** This data element is used to measure the general amount of kindling fuel present within the structure. A kindling fuel is a material that has been divided finely enough that it can be readily ignited. Examples of kindling fuels included wastepaper, corrugated cardboard, wood chips, and the like.

**5-14.1.2** The location of the solid kindling fuel being evaluated must be reported for the data to have relevance. One logical difference is to evaluate and report solid kindling fuels in occupied and unoccupied areas.

**5-14.1.3** Where solid kindling fuels are to be classified, the following classification numbers should be used.

1. Cluttered operations with kindling fuels in all areas.
2. Cluttered operations with kindling fuels in most areas.
3. Cluttered operations with kindling fuels in some areas.
4. Overcrowded operations with kindling fuels.
5. Occasional pockets of kindling fuels.
7. Neat and uncluttered operations but kindling fuels present or used in the process. Included are neat and orderly warehouses using cardboard cartons, neat libraries, and the like.
8. No kindling fuels present.
9. Solid Kindling Fuels not classified above.
0. Solid Kindling Fuels undetermined or not reported.

##### 5-14.2 Flammable or Combustible Liquid Use.

**5-14.2.1** This data element is used to measure the extent to which flammable or combustible liquids are used in the business or tenant space and whether or not the flammable or combustible liquids are properly stored in safety cans.

**5-14.2.2** Where flammable or combustible liquid use is to be classified, the following classification numbers should be used.

1. Flammable or combustible liquids used throughout — none in safety cans.
2. Flammable or combustible liquids used throughout — some in safety cans.
3. Flammable or combustible liquids used throughout — all in safety cans.
4. Flammable or combustible liquids used in some areas only — none in safety cans.
5. Flammable or combustible liquids used in some areas only — some in safety cans.
6. Flammable or combustible liquids used in some areas only — all in safety cans.
8. No flammable or combustible liquids present.
9. Flammable or Combustible Liquid Use not classified above.
0. Flammable or Combustible Liquid Use undetermined or not reported.

## 5-15 Obstacles to Rescue and Fire Control.

**5-15.1** This data element is used to define any feature of the property that would present an obstacle to rescuing people from the structure or controlling a fire within the structure. These could be obstacles that impede access to the structure, obstacles that prevent proper exiting from the structure, or construction features that would make it difficult to work within or control a fire within the structure.

**5-15.2** Where the obstacles to rescue and fire control are to be classified, the following classification numbers should be used.

1. Access to structure impeded.  
Included are weak bridges, fences, gates, terrain, parked cars, private road layout, and the like.
2. Windowless wall.  
Included are glassless walls, walls with no breakable glass, fixed sash, glass block walls, and the like.
3. Type of window impedes egress.  
Included are small steel sash, narrow casement windows, bars on windows, fixed sunscreens, and the like.
4. Exits not accessible or substandard.  
Included are narrow, blocked, or locked exits, steep or open stairways, weak hardware, and the like.
5. Internal arrangement.  
Included are high piled stock, partitions creating confusion, obstructions, and the like.
6. Difficult to ventilate.
7. Multiple obstacles.
8. No unusual obstacles to rescue or fire control.
9. Obstacles to Rescue and Fire Control not classified above.
0. Obstacles to Rescue and Fire Control undetermined or not reported.

## Chapter 6 Incident Origin

**6-1 Purpose and Application.** This chapter provides categories for documenting the five (5) factors that describe an inci-

dent's origin, those being the area of origin or release, any equipment involved in ignition, the form of heat of ignition, identification of materials involved (both form and type), and the ignition factor. Data elements within this chapter are used for documenting hazardous materials incidents as well as fires. Other data elements within this chapter provide categories that help to describe fuels involved in wildland fires. Also contained herein are data elements that help describe the circumstances of the incident origin for incendiary or suspicious incidents.

**6-2 Discussion and Examples.** The general property use data element takes in the entire multi-use property or group of buildings, and the specific property use takes in that portion of a multi-use property having one fixed use or occupancy. The area of origin or release is used to identify that portion of the property that is devoted to a specific use or process. For example, an office building may be a general property, a restaurant in that office building may be the specific property use, and the kitchen in that restaurant, if an ignition occurs there, is the area of origin or release. The area of origin is either a room, a space or a portion of a room, a vehicle or a portion of a vehicle, or possibly some open area devoted to a single use.

The ignition of a fire is described using five data elements. These include the "Equipment Involved in Ignition or Release of Hazardous Material" and "Form of Heat of Ignition" to define the heat of ignition, and the "Form and Type of Material First Ignited" to define the material ignited. Neither the heat of ignition by itself nor a kindling material by itself is sufficient to ignite a fire. The "Ignition Factor" defines how the heat of ignition and the material ignited were brought together to allow a fire to start.

The heat of ignition or release of hazardous material often originates in equipment that fails or brings about the ignition or release of hazardous material while operating properly. When ignition occurs, the form of the heat energy is classified using the data element "Form of Heat of Ignition."

For some purposes, it may be enough to know that the source of the heat was from a water heater (classification 12 of Equipment Involved in Ignition); but for proper understanding, the form that the heat of ignition took should be reported. It is desirable to state whether the water was heated by natural gas (classification 14 or 15), LP-Gas (classification 18 or 19), oil (classification 16 or 17), or electricity (division 3).

It is important that the fuel type be properly identified for equipment that may be powered by alternative sources of fuel. Fuel type is of special interest for the following eight types of equipment (numbers in parentheses refer to the classification in 6-4.3): central heating equipment (11), water heater (12), fixed stationary local heating equipment (13), portable heating equipment (15), stoves (21), ovens (22), central air conditioning equipment (31), and dryers (52). Even though more than one classification in this data element may be applicable, for these pieces of equipment, the fuel type should always be identified. That is, use division 1 or 2 for gas, liquid, or solid fuels, and division 3 or classifications 46 or 47 if electrically powered. In most cases, the form of heat will refer to the equipment involved.

For a fire to start, it not only needs heat but the heat must ignite a kindling fuel. This kindling fuel will have a specific use or form that must be identified as the form of material first ignited. This same material will be made of a particular substance or be of a particular composition that is identified as

the type of material first ignited. The type or composition of material is typically as the material exists in its raw, common, or natural state.

Example. A fire started from a natural gas fired hot water heater when vapors from gasoline that was accidentally spilled entered the combustion chamber and were ignited by a gas pilot light. The ignition classification would be:

Equipment Involved in Ignition — water heater (classification 12).

Form of Heat of Ignition — pilot light from natural gas fueled equipment (classification 15).

Form of Material — flammable liquid spilled from container (classification 86).

Type of Material — gasoline (classification 23).

Ignition Factor — flammable liquid accidentally spilled (classification 41).

### 6-3 Area of Fire Origin or Release of Hazardous Materials.

**6-3.1** The area of fire origin or release of hazardous materials identifies the room, area or portion of a room, a vehicle or a portion of a vehicle, or possibly some open area devoted to a specific use where the fire or hazardous materials incident originated. The area of origin or release should be classified according to the use of that room or space at the time of the incident.

The use of an area and its level within the building should each be kept separate for reporting purposes. Thus, words like “attic” and “basement” should not be used to describe an area of origin. If these areas are used for storage, that should be reported; if they are used for some other purpose, that use should be reported.

**6-3.2\*** The following numbers should be used to classify the area of origin or the area where hazardous materials are released.

0. Means of Egress.
  01. Hallway, corridor, mall.
  02. Exterior stairway.
 

Included are fire escapes and exterior ramps.
  03. Interior stairway.
 

Included are interior ramps.
  04. Escalator way.
  05. Lobby, entrance way.
  09. Means of Egress not classified above.
1. Assembly, Sales Areas (groups of people).
  11. Large assembly area with fixed seats (100 or more persons).
 

Included are auditoriums, chapels, places of worship, theaters, arenas, and lecture halls.
  12. Large open room without fixed seats (100 or more persons).
 

Included are ballrooms, gymnasiums, roller rinks, bowling alley lanes, multi-use areas, and the like.
  13. Small assembly area with or without fixed seats (less than 100 persons).
 

Included are classrooms, meeting rooms, multipurpose rooms, and the like.
  14. Lounge area.
 

Included are living rooms, common rooms, TV rooms, dens, recreation rooms, family rooms, sitting rooms, music rooms, and the like.
  15. Sales, showroom area.
 

Excluded are display windows (56).
  16. Library.
 

Included are art galleries and exhibit spaces.
  17. Swimming pool.
  19. Assembly, Sales Areas not classified above.
2. Function Areas.
  21. Sleeping room for under five persons.
 

Included are patient rooms, bedrooms, cells, lockups, and the like.
  22. Sleeping area for five or more persons.
 

Included are wards, dormitories, barracks, and the like.
  23. Dining area, lunchroom, cafeteria.
 

Included are dining rooms, mess rooms, canteens, and beverage service bars.
  24. Kitchen, cooking area.
  25. Lavatory, locker room, cloakroom.
 

Included are checkrooms, rest rooms, bathrooms, powder rooms, washrooms, shower rooms, sauna baths, outhouses, and portable toilets.
  26. Laundry room, area.
 

Included are wash houses.
  27. Office.
  28. Personal service area.
 

Included are health clubs, massage parlors, and barber and beauty treatment areas.
3. Function Areas (continued).
  31. Laboratory.
  32. Printing or photographic room, area.
  33. First aid, treatment room.
 

Included are areas where minor surgery is performed.
  34. Operating room.
 

Included are recovery rooms and operating theaters.
  35. Electronic equipment room, area.
 

Included are control centers, radar rooms, electronic computer areas, data processing centers, telephone equipment rooms, telephone booths, and the like.
  36. Performance, stage area.
 

Included are backstage areas, dressing rooms, ice rinks, boxing rings, and basketball floors.
  37. Projection room, area.
 

Included are stage light and spotlight areas.
  38. Process, manufacturing area.
 

Included are workrooms.
  39. Function Areas not classified above.
4. Storage Areas.
  41. Product storage room or area, storage tank, storage bin.
 

Included are all areas where products are held awaiting process, shipment, use, or sale.
  42. Closet.
  43. Supply storage room or area.
 

Included are tool rooms, maintenance supply rooms, dead storage rooms, and the like.
  44. Records storage room, vault.
  45. Shipping, receiving, loading area.
 

Included are packing departments, mail rooms, and loading bays.
  46. Trash or rubbish area, container.
 

Included are wastepaper storage areas, industrial waste containers, compactors, garbage and trash chutes without incinerators.

- Excluded are incinerators (64).
47. Garage, carport, vehicle storage area.
  49. Storage Areas not classified above.
5. Service Facilities.
51. Elevator, dumbwaiter.  
Included are the shaft areas.
  52. Utility shaft.  
Included are pipe, ventilation, and conduit shafts.
  53. Light shaft.
  54. Chute.  
Included are laundry chutes and mail chutes.  
Excluded are trash chutes (46).
  55. Duct.  
Included are air conditioning, heating, cable, and exhaust ducts.
  56. Display window.
  57. Chimney. For fires not confined to the chimney, the area of origin should be classified as the first area where ignition occurs outside the chimney, and the chimney is the equipment involved in ignition.
  58. Conveyor.
  59. Service Facilities not classified above.
6. Service, Equipment Areas.
61. Machinery room, area.  
Included are elevator machinery rooms, engine rooms, pump rooms, head houses, refrigeration rooms, and the like.
  62. Heating equipment room or area, water heater area.
  63. Switchgear area, transformer vault.
  64. Incinerator room, area.  
Included are all incinerator operations.  
Excluded are rubbish areas without incinerators (46).
  65. Maintenance shop, area.  
Included are repair shops, welding shops, paint shops, workshops, and paint spraying areas.
  66. Test cell.
  67. Enclosure with pressurized air.
  68. Enclosure with enriched oxygen atmosphere.
  69. Service, Equipment Areas not classified above.
7. Structural Areas.
71. Crawl space, substructure space.
  72. Exterior balcony, open porch.
  73. Ceiling and floor assembly, concealed floor/ceiling space.
  74. Ceiling and roof assembly, concealed roof/ceiling space.  
Included are church steeples, cupolas, vacant attics, and the like.
  75. Wall assembly, concealed wall space.
  76. Exterior wall surface.
  77. Exterior roof surface.
  78. Awning.
  79. Structural Areas not classified above.
8. Transportation, Vehicle Areas.
81. Passenger area of transportation equipment.  
Included are the operator areas where the operator and passengers are in the same compartment such as in automobiles, trucks, and buses.
  82. Trunk, load carrying area of transportation equipment.
  83. Engine area, running gear, wheel area of transportation equipment.
  84. Fuel tank, fuel line area of transportation equipment.  
Included are tanks and lines for flammable/combustible liquids up to the engine area.
  85. Separate operating, control area of transportation equipment.  
Included are the bridges of ships, cockpits of planes, and the like.  
Excluded are automobiles, trucks, and buses (81).
  86. Exterior exposed surface of transportation equipment.
  89. Transportation, Vehicle Areas not classified above.
9. Other Area of Origin.
91. On or near railroad right of way, embankment.
  92. On or near highway, public way, street, parking lot.
  93. Court, terrace, patio.  
Included are screened-in porches and patios.
  94. Lawn, field, open area.  
Included are farmland, parks, rangeland, and vacant lots.
  95. Wildland area, woods.
  96. Area under construction or major renovation.
  97. Multiple areas of origin.
  98. Vacant structural area with no current use.
  99. Area of Fire Origin or Hazardous Materials Release not classified above.
  00. Area of Fire Origin or Hazardous Materials Release undetermined or not reported.

#### 6-4 Equipment Identification.

**6-4.1** This section is used to identify the piece of equipment where the heat of ignition originated. It can also be used to identify equipment that was involved in the release of hazardous materials or where a piece of equipment was involved in another type of incident. The equipment involved should be identified and classified regardless of whether it operated properly or improperly.

**6-4.2** When equipment is involved in ignition or the release of hazardous material, the following information should also be recorded.

- (a) Type of equipment.
- (b) Equipment manufacturer's name.
- (c) Model designation.
- (d) Serial number.
- (e) Year of manufacture.
- (f) Brand or trade name.
- (g) Laboratory certification (UL, FM, AGA, etc.).
- (h) If electrical, the current and voltage rating on the label.

**6-4.3\*** The following numbers should be used to classify a piece of equipment.

0. Vehicles.  
Use this category when the vehicle is responsible for the incident (fire or release) but is not itself initially involved. For fires originating in the vehicle, classify the component of the vehicle responsible for the heat as the equipment involved in ignition.
01. Road transport vehicle.  
Excluded are vehicles designed primarily for off-road recreation use (05) and construction (02).

- 011. Passenger car.
- 012. Truck, up to 1 ton.
- 013. Truck, over 1 ton.
- 014. Bus.
- 015. Motor home, recreational vehicle.
- 016. Military truck, vehicle.
- 017. Motorcycle.
- 018. Vans.
- 019. Road Transport Vehicle not classified above.
- 010. Road Transport Vehicle; insufficient information to classify further.
- 02. Construction vehicle.  
Excluded are trucks designed for over-the-road use (01).
- 021. Pavement tar warmer.
- 022. Road grader.
- 023. Bulldozer, trencher.
- 024. Air compressor.
- 025. Earth-moving equipment.
- 026. Crane, power shovel.
- 027. Pile driver, drilling rig.
- 029. Construction Vehicle not classified above.
- 020. Construction Vehicle; insufficient information to classify further.
- 03. Farm vehicle.  
Included are equipment used for commercial farming.  
Excluded are lawn mowers and small garden tractors (04).
- 031. Crawler tractor.
- 032. Wheeled tractor.
- 033. Combine.
- 034. Chopper.
- 035. Baler.
- 036. Hay stacker.
- 039. Farm Vehicle not classified above.
- 030. Farm Vehicle; insufficient information to classify further.
- 04. Home, garden vehicle.  
Excluded are large equipment and vehicles used in commercial farming (03).
- 041. Lawn mower.
- 042. Garden tractor.
- 043. Snow blowers.
- 049. Home, Garden Vehicle not classified above.
- 040. Home, Garden Vehicle; insufficient information to classify further.
- 05. Recreational vehicle.  
Included are vehicles designed primarily for off-road use.  
Excluded are camping vehicles and other vehicles designed primarily for over-the-road use (01).
- 051. Trail bike.
- 052. All-terrain vehicle.
- 053. Snowmobile.
- 054. Non-motorized wheeled vehicle.  
Included are bicycles, tricycles, and scooters.
- 059. Recreational Vehicle not classified above.
- 050. Recreational Vehicle; insufficient information to classify further.
- 06. Woodland vehicle.
- 061. Sky car.
- 062. Loader.
- 063. Yarder.
- 064. Skidder, forwarder.
- 069. Woodland Vehicle not classified above.
- 060. Woodland Vehicle; insufficient information to classify further.
- 07. Railroad vehicle.  
Excluded are general construction vehicles (02).
- 071. Locomotive, diesel.
- 072. Locomotive, steam.
- 073. Locomotive, electric.
- 074. Freight, box, hopper, tank, container, passenger car.
- 075. Refrigerator, piggyback car.
- 076. Speeder, high-rail car.
- 077. Rail grinder.
- 078. Thermal splicer.
- 079. Railroad Equipment not classified above.
- 070. Railroad Equipment; insufficient information to classify further.
- 08. Industrial Vehicle.
- 081. Forklift truck.
- 082. Industrial tow vehicle.
- 083. Ride on floor maintenance equipment.
- 089. Industrial Vehicle not classified above.
- 080. Industrial Vehicle; insufficient information to classify further.
- 09. Vehicles not classified above.
- 099. Other Vehicle not classified above.
- 1. Heating Systems.  
Included are combined heating and cooling systems, or combined heating and cooking stoves if the equipment was being used primarily for heating at the time the fire started.  
Excluded are cords or plugs (47).
- 11. Central Heating Unit.  
Included are heat pumps, central furnaces, and power burners or stokers having an air supply and a return air system.  
Excluded are industrial furnaces (71).
- 110. Central heating unit.
- 12. Water Heater.
- 120. Water heater.
- 13. Fixed, Stationary Local Heating Unit.  
Included are wall furnaces, unit heaters, room heaters, fixed heating stoves, fireplace insert stoves, woodburning stoves providing local heating, and baseboard heaters not intended for duct connection.  
Excluded are fireplaces (14).
- 131. Wall furnaces.
- 132. Baseboard heaters not intended for duct connection.
- 133. Free standing stoves.
- 134. Fireplace insert stoves.
- 135. Other room heaters.
- 139. Fixed, Stationary Local Heating Unit not classified above.
- 130. Fixed, Stationary Local Heating Unit; insufficient information to classify further.
- 14. Indoor Fireplace.  
Excluded are fireplace insert stoves (13).
- 141. Masonry fireplace.

142. Factory-built fireplace.
  143. Fireplace insert with masonry fireplace.
  144. Fireplace insert with factory-built fireplace.
  149. Indoor Fireplace not classified above.
  140. Indoor Fireplace; insufficient information to classify further.
15. Portable Local Heating Unit.  
Included are space heaters, room heaters, and portable salamanders.
151. Electric oil-filled heater.
  152. Electric heater, not oil-filled.
  153. Electric heater, not otherwise specified.
  154. Kerosene heaters.
  155. Oil heaters.
  159. Portable Local Heating Unit not classified above.
  150. Portable Local Heating Unit; insufficient information to classify further.
16. Chimney, Gas Vent Flue.  
Included are masonry, factory-built, and metal chimneys. Use this classification only if heat from a chimney or sparks coming from a chimney ignite other materials not in the chimney. For fires confined to the chimney, classify the equipment involved in ignition as appropriate in subdivision 11 - 15 above.
161. Masonry chimney.  
Included are chimneys constructed of brick, stone, concrete block, or concrete block modules.
  162. Masonry chimney connected to freestanding wood stove.
  163. Masonry chimney connected to fireplace insert.
  164. Factory-built chimney connected to free standing wood stove.  
Included are multi-wall, air-insulated chimneys and solid pack insulation-filled chimneys.
  165. Factory-built chimney connected to fireplace insert.
  166. Factory-built chimney serving a factory-built fireplace.
  167. Other factory-built chimney.  
Excluded are installations specified in 164-166.
  168. Gas vents.  
Included are double-wall, air-insulated, or asbestos-cement types of product identified by a marking of a listing agency.
  169. Chimney, Gas Vent Flue not classified above.
  160. Chimney, Gas Vent Flue; insufficient information to classify further.
17. Chimney Connector, Vent Connector (connects firebox to chimney or vent), using single or double wall metal or other material that differs from the construction of the chimney.  
Included are smoke pipes.
171. Solid fuel appliance connector, single wall.
  172. Solid fuel appliance connector, double wall.
  173. Gas vent connector, single wall.  
Included are single wall connectors used for any gas-burning appliance. If the entire system is of the same material, classify in 164 or 165 as appropriate.
  174. Liquid fuel appliance connector.
  179. Chimney Connector, Vent Connector not specified above.
  170. Chimney Connector, Vent Connector; insufficient information to classify further.
18. Heat Transfer System.  
Included are steam lines, heating pipes, and hot air ducts.
180. Heat transfer system.
19. Heating Systems not classified above.
190. Heating Systems not classified above.
10. Heating Systems; insufficient information available to classify further.
100. Heating Systems; insufficient information available to classify further.
2. Cooking Equipment.  
Included are combined heating and cooking stoves if the stove was being used primarily for cooking at the time the fire started.  
Excluded are cords and plugs (47).
21. Fixed Stationary Surface Unit.  
Included are stoves and accessories such as rotisseries and grills that are part of the surface unit.  
Excluded are open fire grills (261).
210. Fixed stationary surface unit.
22. Fixed, Stationary Oven.  
Included are rotisseries that are part of an oven and ovens that are part of ranges.
220. Fixed, stationary oven.
23. Fixed, Stationary Food Warming Appliance.  
Included are coffee urns, steam tables, warming drawers, and warming tables.
230. Fixed, stationary food warming appliance.
24. Deep Fat Fryer.
240. Deep fat fryer.
25. Portable Cooking, Warming Unit.  
Included are hot plates, camp stoves, toasters, and waffle irons.
251. Hot plates.
  252. Camp stoves.
  253. Toasters.
  254. Toaster ovens.
  255. Waffle irons, griddles.
  256. Microwave ovens, not part of a range or built-in.
  257. Other counter-top ovens, cooking appliances.  
Excluded are separate microwave ovens (256).
  258. Coffee makers.
  259. Portable Cooking, Warming Unit not classified above.
  250. Portable Cooking, Warming Unit; insufficient information to classify further.
26. Open Fired Grill.  
Included are charcoal-, wood-, and paper-fired hibachi and barbecue grills.
261. Charcoal grill.
  262. Wood- and paper-fired hibachi.
  263. Gas grills.  
Excluded are grills that are part of an indoor surface cooking unit (21).
  269. Open Fired Grill not specified above.
  260. Open Fired Grill; insufficient information to classify further.
27. Grease Hood, Duct.  
Included are the lighting and venting equipment of the unit.
270. Grease hood, duct.
29. Cooking Equipment not classified above.
290. Cooking equipment not classified above.



20. Cooking Equipment; insufficient information available to classify further.
200. Cooking equipment; insufficient information available to classify further.
3. Air Conditioning, Refrigeration Equipment.  
Included are combined heating and cooling systems, if the equipment was being used primarily for cooling at the time the fire started.  
Excluded are cords and plugs (47).
31. Central Air Conditioning, Refrigeration Equipment.
310. Central air conditioning, refrigeration equipment.
32. Water Cooling Device, Tower.  
Included are evaporative coolers.
320. Water cooling device, tower.
33. Fixed, Stationary Local Refrigerator Unit.  
Included are cold boxes, freezers, and refrigerators.
331. Freezer.
332. Refrigerator, including combination refrigerator/freezer.
339. Fixed Stationary Local Refrigerator Unit not classified above.
330. Fixed Stationary Local Refrigerator Unit; insufficient information to classify further.
34. Fixed Stationary Local Air Conditioning Unit.  
Included are fixed fans.
341. Ceiling fan.
342. Exhaust fan.  
Excluded are range hoods (27).
343. Window-mounted fans.
344. Window-mounted air conditioners.
349. Fixed Stationary Local Air Conditioning Unit not classified above.
340. Fixed Stationary Local Air Conditioning Unit; insufficient information to classify further.
35. Portable Air Conditioning, Refrigeration Unit.  
Included are dehumidifiers and portable fans.
351. Portable dehumidifiers.
352. Portable fans.
353. Portable air conditioner.
359. Portable Air Conditioning, Refrigeration Unit not classified above.
350. Portable Air Conditioning, Refrigeration Unit; insufficient information to classify further.
39. Air Conditioning, Refrigeration Equipment not classified above.
390. Air conditioning, refrigeration equipment not classified above.
30. Air Conditioning, Refrigeration Equipment; insufficient information available to classify further.
300. Air conditioning, refrigeration equipment; insufficient information available to classify further.
4. Electrical Distribution Equipment.  
Excluded are heating, cooking, air conditioning, and refrigeration equipment (1, 2, and 3).
41. Fixed Wiring.  
Included are power lines, cables, wiring in raceways, connections at junction boxes, and electric wiring in vehicles.  
Excluded are wiring terminations at receptacles, outlets (45), and lighting fixtures (46).
411. Power (utility) line.
412. Overhead service supply wires.
413. Underground service supply wires.
414. Service entrance cable.
415. Branch circuit, armored (metallic) cable.
416. Branch circuit, nonmetallic sheathing, copper wire.
417. Branch circuit, nonmetallic sheathing, aluminum wire.
418. Branch circuit, wire in conduit.
419. Fixed Wiring not classified above.
410. Fixed Wiring; insufficient information to classify further.
42. Transformer, Associated Overcurrent or Disconnect Equipment.
421. Control type transformer (starter and solenoid operating).
422. Distribution type transformer.
423. Low voltage transformer (not more than 50 volts).
424. Overcurrent, disconnect equipment associated with a transformer.
429. Transformer, Associated Overcurrent or Disconnect Equipment not classified above.
420. Transformer, Associated Overcurrent or Disconnect Equipment; insufficient information to classify further.
43. Meter, Meter Box.
431. Meter.
432. Meter mounting equipment, meter box.
439. Meter, Meter Box not classified above.
430. Meter, Meter Box; insufficient information to classify further.
44. Power Switch Gear, Overcurrent Protection Devices.  
Included are panelboards or switchboards, fuses, circuit breakers with or without ground fault circuit interrupters.
441. Main switch.
442. Industrial control switch.
443. Branch circuit distribution panel board, fuse.
444. Branch circuit distribution panel board, circuit breaker, with or without ground-fault circuit-interrupter.
449. Power Switch Gear, Overcurrent Protection Devices not classified above.
440. Power Switch Gear, Overcurrent Protection Devices; insufficient information to classify further.
45. Switch, Receptacle, Outlet.  
Included are branch circuit termination failures.
451. Wall type switch.
452. Receptacle, outlet.
453. Ground-fault interrupter (GFI) receptacle, hard-wired.
454. Ground-fault interrupter (GFI), portable, plug-in.
459. Switch, Receptacle, Outlet not classified above.
450. Switch, Receptacle, Outlet; insufficient information to classify further.
46. Fixed Lighting Fixture, Lamp Holder, Ballast, Sign.  
Included are heat lamps and branch circuit termination failures.
461. Fluorescent lighting fixture, ballast.
462. Incandescent lighting fixture.
463. Heat lamp.
464. Lamp holder.
465. Inside sign.
466. Outside sign.
469. Lighting Fixture, Lamp Holder, Ballast, Sign not classified above.

460. Lighting Fixture, Lamp Holder, Ballast, Sign; insufficient information to classify further.
47. Cord, Plug.  
Included are extension cords, appliance cords, and plugs.
471. Cord, plug on appliance.
472. Cord, plug on portable lamp.
473. Extension cord, single sheathed.  
Note: This is normally flat cord.
474. Extension cord, double sheathed.  
Note: This is normally round cord.
475. Christmas tree light strings.
476. Adapter.
477. Surge protection device.
479. Cord, Plug not classified above.
470. Cord, Plug; insufficient information to classify further.
48. Portable Lamp, Light Bulb.  
Included are portable heat lamps.  
Excluded are cords and plugs.
481. Portable lighting lamp, light bulb.
482. Portable heat lamp, bulb.
489. Portable Lamp, Light Bulb not classified above.
480. Portable Lamp, Light Bulb; insufficient information to classify further.
49. Electrical Distribution Equipment not classified above.
490. Electrical Distribution Equipment not classified above.
40. Electrical Distribution Equipment; insufficient information to classify further.
400. Electrical Distribution Equipment; insufficient information to classify further.
5. Appliances, Equipment (other than elsewhere classified in this chapter).
51. Television, Radio, Phonograph.  
Included are tape recorders, sound- or picture-receiving equipment, and reproduction equipment.
511. Television.
512. Radio, cassette player, compact disc player.
513. Phonograph.
514. Stereo system combination.
515. Video cassette recorder (VCR).
516. Separate audio speaker.
517. Reproduction equipment.
519. Television, Radio, Phonograph not classified above.
510. Television, Radio, Phonograph; insufficient information to classify further.
52. Dryer.  
Included are coin-operated dryers and extractors removing any liquid or solvent.
520. Dryer.
53. Washing Machine, Dishwasher.  
Included are coin-operated machines at laundries.
530. Washing Machine, Dishwasher.
54. Floor care equipment.  
Excluded are "ride on" type floor care machines, which are classified as industrial trucks (96).
541. Vacuum cleaner.
542. Carpet shampoos.
549. Floor Care Equipment not classified above.
540. Floor Care Equipment; insufficient information to classify further.
55. Separate Motor, Generator  
Included are those not an integral part of an appliance and those separated by a belt or chain from the equipment they drive or that drives them.
551. Fractional h.p. motor.
552. One h.p. and over motor.
553. Elevator motor.
554. Generator.
559. Separate Motor, Generator not classified above.
550. Separate Motor, Generator; insufficient information to classify further.
56. Hand Tools.  
Included are soldering irons, drills, and the like.
560. Hand tools.
57. Portable Appliance Designed to Produce Controlled Heat (not classified in 52 or 56).  
Included are electric blankets, irons, and heat tape.  
Excluded is cooking equipment.
571. Heat tape.
572. Electric blanket, heating pad, mattress pad.
573. Irons.
574. Hair dryers.
575. Curling irons.
576. Other hair care (except 574 and 575).
577. Humidifier, heat producing.
579. Portable Appliance Designed to Produce Controlled Heat not classified above.
570. Portable Appliance Designed to Produce Controlled Heat; insufficient information to classify further.
58. Portable Appliance Designed Not to Produce Heat (not classified above).  
Included are electric razors and can openers.  
Excluded are fans (351).
581. Electric razor.
582. Humidifier, non-heat producing.
583. Can opener.
589. Portable Appliance Designed Not to Produce Heat not classified above.
580. Portable Appliance Designed Not to Produce Heat; insufficient information to classify further.
59. Appliances, Equipment not classified above.
590. Appliances, Equipment not classified above.
50. Appliances, Equipment; insufficient information to classify further.
500. Appliances, Equipment; insufficient information to classify further.
6. Special Equipment.
61. Electronic Equipment.  
Included are radar, X-ray, computer, telephone, and transmitter equipment.
611. Radar.
612. X-ray.
613. Computer.

- 614. Telephone.
- 615. Telefax.
- 616. Transmitter.
- 619. Electronic Equipment not classified above.
- 610. Electronic Equipment; insufficient information to classify further.
- 62. Vending Machine, Drinking Fountain.
- 620. Vending machine, drinking fountain.
- 63. Office Machine.  
Excluded are office machines classified in 61.
- 631. Printer.
- 632. Copier.
- 633. Typewriter, calculator, adding machine.
- 639. Office Equipment not classified above.
- 630. Office Equipment; insufficient information to classify further.
- 64. Biomedical Equipment, Device.  
Included are anesthetizing machines.
- 640. Biomedical equipment, device.
- 65. Separate Pump, Compressor.
- 650. Separate pump, compressor.
- 66. Internal Combustion Engine.  
Included are the drive train and exhaust system.  
Excluded are bearings and brakes (82), vehicles (01 - 09), and chain saws (91).
- 660. Internal combustion engine.
- 67. Conveyor, Escalator.
- 670. Conveyor, escalator.
- 68. Printing Press.
- 680. Printing press.
- 69. Special Equipment not classified above.
- 690. Special Equipment not classified above.
- 60. Special Equipment; insufficient information to classify further.
- 600. Special Equipment; insufficient information to classify further.
- 7. Processing Equipment.
- 71. Furnace, Oven, Kiln.  
Excluded are those used for food preparation (division 2) and heat treating (73).
- 710. Furnace, oven, kiln.
- 72. Casting, Molding, Forging Equipment.  
Included are glass-forming machines and die-casting machines.
- 720. Casting, molding, forging equipment.
- 73. Heat Treating Equipment.  
Included are quench tanks and associated equipment.
- 730. Heat treating equipment.
- 74. Working, Shaping Machine.  
Included are sawing, planing, grinding, machining, forming, opening, picking, carding, and weaving machines.
- 740. Working, shaping machine.
- 75. Coating Machine.  
Included are asphalt-saturating and rubber-spreading machines.
- 750. Coating machine.
- 76. Painting Equipment.  
Included are dipping, spraying, and flow-coating equipment.
- 760. Painting equipment.
- 77. Chemical Process Equipment.  
Included are digesters, reactors, black liquor recovery units, and distilling equipment.
- 770. Chemical process equipment.
- 78. Waste Recovery Equipment.  
Included are garnetting and solvent recovery equipment.
- 780. Waste recovery equipment.
- 79. Processing Equipment not classified above.
- 790. Processing Equipment not classified above.
- 70. Processing Equipment; insufficient information available to classify further.
- 700. Processing Equipment; insufficient information available to classify further.
- 8. Service, Maintenance Equipment.
- 81. Incinerator.  
Included are burning barrels.
- 810. Incinerator.
- 82. Bearing, Brake.
- 820. Bearing, brake.
- 83. Rectifier, Charger.  
Included are inverters and batteries.
- 830. Rectifier, charger.
- 84. Tarpot, Tar Kettle.
- 840. Tarpot, tar kettle.
- 85. Arc, Oil Lamp.  
Included are gas mantles, arc-lighted motion-picture projectors, and lanterns for recreational use.
- 850. Arc, oil lamp.
- 86. Elevator.
- 860. Elevator.
- 87. Torch/Welder.  
Included are cutting, welding, and plumbers' torches, Bunsen burners, weed burners, and arc welders.
- 870. Torch/welder.
- 89. Service, Maintenance Equipment not classified above.
- 890. Service, Maintenance Equipment not classified above.
- 80. Service, Maintenance Equipment; insufficient information available to classify further.
- 800. Service, Maintenance Equipment; insufficient information available to classify further.
- 9. Other Equipment.
- 91. Power Saws.  
Included are chain saws.

- 910 Power saws.
- 92. Hand-Held Yard and Garden Maintenance Equipment.  
Included are grass and brush trimmers.  
Excluded are power saws (91).
- 920. Hand-held yard and garden maintenance equipment.
- 93. Power Transfer Equipment.  
Included are cables, wire ropes, blocks, and belts.  
Excluded are the vehicles or equipment providing the power and electric wiring.
- 930. Power transfer equipment.
- 94. Electric Fencing.
- 940. Electric fencing.
- 95. Flammable Liquid Transfer Equipment.  
Included are piping, valves, and connected storage tanks.  
Excluded are pumps or compressors (65).
- 950. Flammable liquid transfer equipment.
- 96. Hazardous Materials (other than flammable liquids) Transfer Equipment.  
Included are piping, valves, and storage containers.  
Excluded are pumps or compressors (65).
- 960. Hazardous materials (other than flammable liquids) transfer equipment.
- 97. Cigarette Lighter.
- 970. Cigarette lighter.
- 98. No Equipment Involved.  
[See 6-5.2 for Form of Heat of Ignition (e.g., cigarette, match).]
- 980. No equipment involved.
- 99. Equipment Involved not classified above.
- 999. Equipment Involved not classified above.
- 00. Equipment Involved undetermined or not reported.
- 000. Equipment Involved undetermined or not reported.

## 6-5 Form of Heat of Ignition.

**6-5.1** Form of heat identifies the heat energy that ignited the fire. If the equipment is powered by fuel, then the fuel should be identified also. This data element applies to fires only.

**6-5.2\*** The following numbers should be used to classify the form of heat of ignition.

- 0. Heat, Sparks, Ember, or Flames from Outside, Open Fires.
  - 01. Outside open fire for debris or waste disposal.
  - 02. Outside open fire for warming.
  - 03. Outside open fire for cooking.
  - 04. Outside open bonfire.
  - 05. Agricultural burns, land management burns.  
Included are prescribed burning.
  - 08. Heat, Sparks, Ember, or Flames from Outside, Open Fires not classified above.
  - 09. Heat, Sparks, Ember, or Flames from Outside, Open Fires; insufficient information available to classify further.
- 1. Heat from Fuel-Fired or Fuel-Powered Equipment (gas or liquid fuel).  
NOTE: Gas is a gaseous fuel; gasoline is a liquid fuel.  
The difference between subdivision 14 and 15 (or 16 and 17, or 21 and 22, etc.) is whether a spark, ember, or flame actually escaped from the equipment or whether it was simply overheating of the outside surface (or its internal heat) causing the ignition of nearby combustibles.
  - 11. Spark, ember, heat, or flame from cutting torch operation (separating metals).
  - 12. Spark, ember, heat, or flame from welding torch operation (joining metals).
  - 13. Spark, ember, heat, or flame other than cutting/welding.  
Included are plumbers' furnaces, blow torches, plumbers' torches, Bunsen burners, soldering and heating operations, paint stripping torches, and other torch operations.
  - 14. Spark, ember, flame escaping from natural gas fueled equipment other than torch.
  - 15. Heat from natural gas fueled equipment other than torch.  
Included are pilot lights and normal flames.
  - 16. Spark, ember, flame escaping from liquid fueled equipment.  
Included is exhaust carbon not trapped by a spark arrester or not pulverized by a turbocharger.
  - 17. Heat from liquid fueled equipment.  
Included are pilot lights, normal flames, and exhaust system surfaces.
  - 18. Spark, ember, flame escaping from LP-Gas fueled equipment other than torch.  
Included are butane and propane.
  - 19. Heat from LP-Gas fueled equipment other than torch.  
Included are pilot lights and normal flames.
- 2. Heat from Fuel-Fired or Fuel-Powered Equipment (solid fuel).
  - 21. Spark, ember, flame escaping from wood or paper fueled equipment.  
Included are sparks from a chimney connected to the equipment.
  - 22. Heat from wood, paper fueled equipment.  
Included are chimneys, pilot lights, and normal flames.
  - 23. Spark, ember, flame escaping from coal or coke fueled equipment.  
Included are sparks from a chimney connected to the equipment.
  - 24. Heat from coal or coke fueled equipment.  
Included are chimneys, pilot lights, and normal flames.
  - 25. Spark, ember, flame escaping from other solid fueled equipment.
  - 26. Heat from other solid fueled equipment.  
Included are chimneys, pilot lights, and normal flames.
  - 27. Spark, ember, flame escaping from fuel-fired equipment; specific fuel not known.
  - 28. Heat from fuel-fired equipment: specific fuel not known.
  - 29. Heat from Fuel-Fired or Fuel-Powered Equipment not classified above.
  - 20. Heat from Fuel-Fired or Fuel-Powered Equipment; insufficient information available to classify further.
- 3. Heat from Electrical Equipment Arcing or Overloaded.
  - 31. Water caused short-circuit arc.
  - 32. Short-circuit arc from mechanical damage.
  - 33. Short-circuit arc from defective, worn insulation.
  - 34. Unspecified short-circuit arc.
  - 35. Arc from faulty contact, loose connection, broken conductor, broken powerline.

36. Arc, spark from operating equipment, switch, or electric fence.  
Excluded are static discharges from equipment whether it is in operation or not (74).
37. Heat from overloaded equipment.  
Included are wires and motors.
38. Fluorescent light ballast.
39. Heat from Electrical Equipment Arcing or Overloaded not classified above.
30. Heat from Electrical Equipment Arcing or Overloaded; insufficient information available to classify further.
4. Heat from Hot Object
  41. Heat, spark from friction.  
Included are overheated tires.
  42. Molten, hot material.  
Included are molten metal, hot forging, and hot glass, hot metal fragment, brakeshoe, hot box and slag from arc welding operations.
  43. Hot ember ash.  
Included are embers and ash discarded from solid fuel-fired equipment.  
Excluded are embers accidentally escaping from solid fuel-fired equipment (division 2) and embers or sparks from an exposure fire (83) or embers and sparks from smoking materials (division 6).
  44. Electric lamp.  
Included are light bulbs.
  45. Rekindle, reignition.
  46. Heat from properly operating electrical equipment.
  47. Heat from improperly operating electrical equipment.  
Excluded are overloaded operating electrical equipment (37) and fluorescent light ballast (38).
  49. Heat from Hot Object not classified above.
  40. Heat from Hot Object; insufficient information available to classify further.
5. Heat from Explosives or Fireworks.
  51. Munitions.  
Included are bombs, ammunition (not tracer, which is 52), and military rockets.
  52. Tracer ammunition.
  53. Blasting agent, prima cord, black powder fuse.  
Included are fertilizing agents, ammonium nitrate, and sodium, potassium, or other chemical agents.
  54. Fireworks.  
Included are sparklers, paper caps, party poppers, and fire-crackers.
  55. Model and amateur rocket.
  56. Incendiary device.  
Included are Molotov cocktails.
  59. Heat from Explosives or Fireworks not classified above.
  50. Heat from Explosives or Fireworks; insufficient information available to classify further.
6. Heat from Other Open Flame, Sparks, or Smoking Materials.  
Included is heat from material in use or after use.
  61. Cigarette.
  62. Cigar or pipe.
  63. Heat from undetermined smoking material.
  64. Match.
  65. Lighter (flame type).
  66. Candle, taper.
  67. Warning flare, fusee.
  68. Backfire from internal combustion engine.  
Excluded are flames and sparks from an exhaust system (16).
  69. Heat from Other Open Flame, Sparks, or Smoking Materials not classified above.
  60. Heat from Other Open Flame, Sparks, or Smoking Materials; insufficient information to classify further.
  7. Heat from Natural Source.
    71. Sun's heat.  
Usually magnified through glass, bottles, etc.
    72. Spontaneous ignition, chemical reaction.
    73. Lightning discharge.
    74. Static discharge.  
Excluded are electrical arcs or sparks (36).
    79. Heat from Natural Source not classified above.
    70. Heat from Natural Source; insufficient information available to classify further.
  8. Heat Spreading from Another Unwanted or Hostile Fire (Exposure).
    81. Heat from direct flame, convection currents.
    82. Radiated heat.  
Excluded is heat from exhaust systems of fuel-fired, fuel-powered equipment (16).
    83. Heat from flying brand, ember, spark.  
Excluded are embers, sparks from a chimney igniting the roof of the same structure (division 2).
    84. Conducted heat.
    89. Heat Spreading from Another Unwanted or Hostile Fire not classified above.
    80. Heat Spreading from Another Unwanted or Hostile Fire; insufficient information available to classify further.
  9. Other Form of Heat of Ignition.
    97. Multiple forms of heat of ignition.  
Use this subdivision only where there are multiple fires started at approximately the same time on the same property and more than one heat of ignition was initially involved. If one major heat source was involved, use the appropriate classification.
    99. Form of Heat of Ignition not classified above.
    00. Form of Heat of Ignition undetermined or not reported.

## 6-6 Material Identification.

### 6-6.1 Form of Material.

**6-6.1.1** Form of material identifies the use of a material. Combined with the type of material data element it will identify the material first ignited, the material contributing most to smoke or flame development, or whenever it is necessary to classify a material and its use. This data element applies to fires only.

When used for recording the first material ignited, it should identify the first item that had sufficient volume or heat intensity to extend to uncontrolled or self-perpetuating fire.

**6-6.1.2\*** The following numbers should be used to classify the form of material.

1. Structural Component, Finish.
  11. Exterior roof covering, surface, finish.
  12. Exterior sidewall covering, surface, finish.  
Included are eaves.
  13. Exterior trim, appurtenances.  
Included are doors, porches, and platforms.

14. Floor covering, surface.
15. Interior wall covering.  
Included are cloth wall coverings, wood paneling, and items permanently affixed to a wall or door.  
Excluded are curtains and draperies (36) and decorations (42).
16. Ceiling covering, surface.  
Included are cloth permanently affixed to ceiling, and acoustical tile.
17. Structural member, framing.
18. Thermal, acoustical insulation within wall, partition, or floor/ceiling space.  
Included are fibers, batts, boards, loose fills.
19. Structural Component, Finish not classified above.
10. Structural Component, Finish; insufficient information available to classify further.
2. Furniture, Utensils.  
Included is built-in furniture.
21. Upholstered sofa, chair, vehicle seats.
22. Nonupholstered chair, bench.
23. Cabinetry.  
Included are filing cabinets, pianos, dressers, chests of drawers, desks, tables, and bookcases.  
Excluded are TV sets, bottle warmers, and appliance housings (25).
24. Ironing board.
25. Appliance housing or casing.
26. Kitchen household utensils.
29. Furniture, Utensils not classified above.
20. Furniture, Utensils; insufficient information available to classify further.
3. Soft Goods, Wearing Apparel.
31. Mattress, pillow.
32. Bedding, blanket, sheet, comforter.  
Included are heating pads.
33. Linen, other than bedding.  
Included are towels and tablecloths.
34. Wearing apparel not on a person.
35. Wearing apparel on a person.
36. Curtain, blind, drapery, tapestry.
37. Goods not made up.  
Included are fabrics and yard goods.
38. Luggage.
39. Soft Goods, Wearing Apparel not classified above.
30. Soft Goods, Wearing Apparel; insufficient information available to classify further.
4. Adornment, Recreational Material.
41. Christmas tree.
42. Decoration.
43. Book.
44. Magazine, newspaper, writing paper.  
Included are files.
45. Toy, game.
46. Awning, canopy.
47. Tarpaulin, tent.
49. Adornment, Recreational Material not classified above.
40. Adornment, Recreational Material; insufficient information available to classify further.
5. Supplies, Stock.
51. Box, carton, bag.
52. Basket, barrel.  
Included are waste baskets.
53. Pallet, skid (not in use).  
Excluded are palletized stock (85).
54. Rope, cord, twine, yarn.
55. Packing, wrapping material.
56. Bale storage.
57. Bulk storage.
58. Cleaning supplies.  
Included are brooms, brushes, mops, cleaning cloths, and cleaning fluids.
59. Supplies, Stock not classified above.
50. Supplies, Stock; insufficient information available to classify further.
6. Power Transfer Equipment, Fuel.
61. Electrical wire, cable insulation.  
Do not classify the insulation on the wiring as the first material ignited unless there were no other materials in the immediate area, such as might be found in a cable tray or electrical vault. Classify the first material of significance that caught fire from the wire/wire insulation as the material first ignited.
62. Transformer.  
Included are transformer fluids.
63. Conveyor belt, drive belt, V-belt.
64. Tire.
65. Fuel.  
Included are flammable liquids or gases in their final container prior to direct transfer into the engine or burner or the piping associated with this final transfer.  
Excluded are flammable liquids or gases stored in a container such that they need to be transferred to another container before use (86).
66. Pipe, duct, conduit, hose.
67. Pipe, duct, conduit covering.  
Included are insulating materials whether for acoustical or thermal purposes and whether inside or outside the pipe, conduit, duct.
68. Filter.  
Included are evaporative cooler pads.
69. Power Transfer Equipment, Fuel not classified above.
60. Power Transfer Equipment, Fuel; insufficient information available to classify further.
7. General Form.
71. Agricultural product.
72. Fence, pole.
73. Fertilizer.
74. Vegetation or animal not included in classification 71 whether living or dead.
75. Rubbish, trash, waste.
76. Cooking materials.  
Included are edible materials for man or animal.
77. Sign.  
Included are outdoor signs such as billboards.
78. Film, residue.  
Included are paint or resin film and paint or resin residue on spray booths, exhaust ducts or dip tank drain boards, chimney residue (soot) and other films and residues produced as a by-product of an operation.
8. Special Form.

81. Dust, fiber, lint.  
Included are sawdust and excelsior.
  82. Pyrotechnics, explosives.
  83. Atomized, vaporized liquid.  
Excluded are aerosols (86).
  84. Chips.
  85. Palletized material, material stored on pallets.
  86. Gas or liquid in or from pipe or container.  
Included are accelerants, aerosols.  
Excluded are fuels in their final container prior to direct transfer to the engine or burner or in the piping associated with the final transfer (65).
  87. Rolled material.  
Included is rolled paper.
  88. Adhesive.
9. Other Form of Material.
91. Railroad ties.
  97. Multiple forms of material first ignited.  
Use this subdivision only where there are multiple fires started at approximately the same time on the same property and more than one form of material was initially involved. If one major material was involved, use the appropriate classification.
  98. Form of material not significant or not applicable.  
Use this subdivision only when this data element is being used for reporting a form of material as other than the first material ignited and the circumstances of the situation are such that the form of material is not applicable or significant.
  99. Form of Material not classified above.
  00. Form of Material undetermined or not reported.

## 6-6.2 Type of Material.

**6-6.2.1** Type of material identifies the composition of the material as it exists in its raw, common, or natural state. Combined with the form of material data element it will identify the material first ignited, the material contributing most to smoke or flame development, or whenever it is necessary to classify a material and its use. This data element applies to fires only.

When used for recording the first material ignited, it should identify the first item that had sufficient volume or heat intensity to extend to uncontrolled or self-perpetuating fire.

**6-6.2.2\*** The following numbers should be used to classify the type of material.

0. Wood, Cellulose-Naturally Occurring.
  01. Grass.
  02. Leaves, needles, litter (vegetative).
  03. Duff (the material between the leaf and/or needle cover and the mineral soil).  
Included are decomposed material and humus.
  04. Peat.
  05. Live tree, brush.
  06. Snag (standing dead tree).
  07. Logs.
  08. Slash (felled brush, limbs, tree tops).
  09. Rotten wood.
1. Gas (not gasoline).
  11. Natural gas.
  12. LP-City Gas (LP and air mix).
  13. Manufactured gas.
  14. LP-Gas.
  15. Anesthetic gas.
  16. Acetylene.
  17. Other specialty gas.  
Excluded are anesthetic gas (15), acetylene (16), and hydrogen (18).
  18. Hydrogen.
  19. Gas not classified above.
  10. Gas; insufficient information available to classify further.
2. Flammable, Combustible Liquid.  
Classification information is given in NFPA 321, *Standard on Basic Classification of Flammable and Combustible Liquids*; and NFPA 325, *Guide to Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids*.
  21. Class IA flammable liquid.  
Flash point less than 22.8°C (73°F) and boiling point less than 37.8°C (100°F).  
Included are ethyl ether, pentane, and ethylene oxide.
  22. Class IB flammable liquid.  
Flash point less than 22.8°C (73°F) and boiling point at or above 37.8°C (100°F).  
Included are acetone ethyl alcohol, JP-4 jet fuel, and methyl ethyl ketone.  
Excluded is gasoline (23).
  23. Gasoline.
  24. Class IC flammable liquid.  
Flash point at or above 22.8°C (73°F) and below 37.8°C (100°F).  
Included are butyl alcohol, propyl alcohol, styrene, and turpentine.
  25. Class II combustible liquid.  
Flash point at or above 37.8°C (100°F) but less than 60°C (140°F).  
Included are kerosene, Nos. 1 and 2 fuel oil, and diesel fuel.
  26. Class IIIA combustible liquid.  
Flash point at or above 60°C (140°F) but less than 93.4°C (200°F).  
Included are Nos. 4, 5, and 6 fuel oil, cottonseed oil, and creosote oil.
  27. Class IIIB combustible liquid.  
Flash point at or above 93.4°C (200°F).  
Included are cooking oil, transformer oil, and lubricating oil.
  29. Flammable, Combustible Liquid not classified above.
  20. Flammable, Combustible Liquid; insufficient information available to classify further.
3. Volatile Solid, Chemical.
  31. Fat, grease (food).  
Included are butter, tallow, margarine, and lard.
  32. Grease (nonfood).  
Included are petroleum jellies.
  33. Polish.  
Included are paraffin and wax.
  34. Adhesive, resin, tar.  
Included are glue, gelatin, rosin, damas, elemi, kauri, asphalt, pitch, contact cement, soot, carbon, creosote.  
Excluded is asphalt impregnated material (86).
  35. Applied paint, varnish.
  36. Combustible metal.  
Included are magnesium, titanium, and zirconium.

37. Solid chemical.  
Included are explosives.  
Excluded are liquid chemicals (division 2) and gaseous chemicals (division 1).
38. Radioactive material.
39. Volatile Solid, Chemical not classified above.
30. Volatile Solid, Chemical; insufficient information available to classify further.
4. Plastics.  
Included are all solid, nonfibrous forms of plastic and synthetic rubber. Examples are polypropylene, polystyrene, polyurethane, and polyvinyl chloride in molded, laminate, foam, film, or sheet form.  
Excluded are synthetic fibers, coated fabrics, and plastic upholstery (division 7).
41. Rigid plastics.  
Incompressible, hard, stiff, inflexible plastics.  
Included are molded plastics such as appliance cases, floor tile, decorative kitchen laminates. If identifiable foam structure is also present, classify as rigid foam (42).
42. Rigid foam plastics.  
Incompressible, hard, stiff, inflexible plastics with cellular, honeycomb, foam structure.  
Included are rigid thermal foam insulation for walls and refrigerators.
43. Flexible plastics.  
Compressible, soft, elastic, or pliable plastic.  
Included is electrical wire insulation. If identifiable foam structure is also present, classify as flexible foam (44).
44. Flexible foam plastics.  
Compressible, soft, elastic, or pliable plastic with cellular, sponge-like, honeycomb, foam structure.  
Included are mattress, furniture interior foam, and carpet pads.
45. Film plastics.  
Paper-thin plastic, either self-supporting or coated on another material no greater than 0.01 in. (0.25 mm) thick.  
Included are polyethylene trash bags, photographic film, coated wallpaper.  
Excluded are coated fabrics (division 7).
49. Plastic not classified above.
40. Plastic; insufficient information available to classify further.
5. Natural Product.
51. Rubber.  
Excluded are synthetic rubbers (classify as plastics, division 4).
52. Cork.
53. Leather.
54. Hay, straw.
55. Grain, natural fiber (preprocess).  
Included are feathers, felt, kapok, hessian, hemp, sisal, jute, cocofilm, flax, and cotton.  
Excluded are fabrics and furniture batting (72).
56. Coal, coke, briquettes, peat.
57. Food, starch.  
Excluded are fat and grease (31).
58. Tobacco.
59. Natural Product not classified above.
50. Natural Product; insufficient information available to classify further.
6. Wood, Paper (Processed).
61. Wood residue.  
Included are chips, sawdust, shavings, excelsior, and processed wood used as thermal insulation.
62. Round timber.  
Included are round posts, poles, and piles.
63. Sawn wood.  
Included is all finished lumber.
64. Plywood.
65. Fiberboard, particleboard, and hardboard.  
Included are low density pressed wood fiberboard products.
66. Wood pulp.
67. Paper.  
Included are cellulose, waxed paper, sensitized paper, and ground-up, processed paper and newsprint used as thermal insulation.
68. Cardboard.
69. Wood, Paper (Processed) not classified above.
60. Wood, Paper (Processed); insufficient information available to classify further.
7. Fabric, Textile, Fur.  
Classify by predominant type of material, except as shown in classification 72.
71. Man-made fabric, fiber, finished goods.  
Excluded are rayon (72).
72. Cotton, rayon, cotton fabric, finished goods.  
Included are canvases and all polyester-cotton blends.  
Excluded is waterproof canvas made with materials compounded with oil (84).
73. Wool, wool mixture fabric, finished goods.
74. Fur, silk, other fabric, finished goods.
75. Wig.
76. Human hair.
77. Plastic coated fabric.  
Included are plastic upholstery fabric and other vinyl fabrics.
79. Fabric, Textile, Fur not classified above.
70. Fabric, Textile, Fur; insufficient information available to classify further.
8. Material Compounded with Oil.
81. Linoleum.
82. Oilcloth.
83. (This subdivision not used in this edition.)
84. Waterproof canvas.  
Excluded is waterproof cloth of rayon covered with neoprene (77).
85. Oily rags.  
Included are waste materials impregnated with oil.
86. Asphalt treated material.  
Excluded are by-products of combustion, soot, carbon, creosote (34).
89. Material Compounded with Oil not classified above.
80. Material Compounded with Oil; insufficient information available to classify further.
9. Other Type of Material.
91. Chaff.
92. Mulch.
93. Litter, combinations of materials having no value in the same container or pile.
94. Animal.



- 97. Multiple types of material first ignited.  
Use this subdivision only where there are multiple fires started at approximately the same time on the same property and more than one type of material was initially involved. If one major material was involved, use the appropriate classification.
- 98. Type of material not significant or not applicable.  
Use this subdivision only when this data element is being used for reporting a type of material as other than the first material ignited and the circumstances of the situation are such that the type of material is not applicable or significant.
- 99. Type of Material not classified above.
- 00. Type of Material undetermined or not reported.

## 6-7 Ignition Factor.

**6-7.1** Ignition factor identifies how the heat of ignition and the material first ignited combined to cause a fire. It can be a deliberate act, an accident, or even an act of nature. This data element applies to fires only.

**6-7.2\*** The following numbers should be used to classify the factor involved in the ignition of the fire.

- 1. Incendiary.  
Incendiary for fire reporting purposes is defined as evidence that leads the reporting person to conclude that a fire was deliberately set. Evidence includes physical material and observations of fire effects and may include witnesses or admissions. A deliberately set fire may be lawful or unlawful depending upon other circumstances relevant under applicable law, including intent, ownership of property ignited, and the presence or absence of permission.
- 11. Unlawful incendiary.  
Evidence supports both a conclusion that the fire was incendiary and that it was unlawful.
- 12. Lawful incendiary.  
Evidence supports the conclusion that the fire was deliberately set but the circumstances indicate that no law was violated.  
Excluded are fires started as nonhostile but that spread and become hostile (34).
- 13. Incendiary — lawfulness not determined.  
Evidence supports the conclusion that the fire was deliberately set but no determination was made as to the other circumstances that would classify the ignition as unlawful.
- 14. Suspicious.  
Physical evidence indicates the possibility that the fire may have been deliberately set but insufficient evidence exists to conclude that it was incendiary. Such fires require additional investigation. If no further investigation is conducted, suspicious fires should be considered as undetermined.
- 2. Reckless.  
Reckless for fire reporting purposes means evidence leads the reporting person to conclude that the person responsible for the fire not only failed to use ordinary care under the circumstances, but demonstrated a wanton disregard for life or property. Evidence includes physical material and observation of fire effects and may include witnesses or admissions. Deliberately set fires should be classified in division 1 (Incendiary).
- 21. Reckless act.
- 3. Misuse of Heat of Ignition.  
Where the heat of ignition moves or was moved, and the material first ignited was stationary, classify here. Where the heat of ignition was stationary and the material first ignited moves or was moved, classify in division 4. Where both the heat of ignition and the material first ignited move or were moved, classify here (division 3). Misuse of smoking materials should be classified in the most appropriate subdivision of division 3.
- 31. Abandoned, discarded heat source.  
Included are discarded cigarettes, cigars, tobacco embers, hot ashes, other burning matter.  
Excluded are outside fires left unattended (34), smoking materials abandoned if asleep (33), impairment by drugs or alcohol (37), or other impairments (38).
- 32. Thawing.
- 33. Falling asleep.  
Included are fires that result from a person smoking when he falls asleep.
- 34. Inadequate control of open fire.  
Included are smoking out animals, campfires, debris burning, outside fires left unattended.
- 35. Heat source used or placed too close to combustibles.  
Included are matches or candles used for light in unsafe places; welding or cutting operations; fires under tree branches, snags; timber hauling block hung improperly; and failure to clear debris from around campfires or engines.  
Excluded are heat sources permanently installed too close to combustibles (63).
- 36. Children playing with heat sources and having no knowledge that fire can do damage.  
Included are matches, candles, and cigarette lighters.  
Excluded are intentional acts (11).
- 37. Person impaired by drug or alcohol.  
Included are people who fall asleep as a result of drugs or alcohol.  
Excluded are people who simply fall asleep (33).
- 38. Person otherwise impaired.  
Included are unconsciousness; mental, physical impairment.  
Excluded are people simply falling asleep (33).
- 39. Misuse of Heat of Ignition not classified above.
- 30. Misuse of Heat of Ignition; insufficient information available to classify further.
- 4. Misuse of Material Ignited.  
Where the heat of ignition moves or was moved, and the material first ignited was stationary, classify in division 3. Where the heat of ignition was stationary and the material first ignited moves or was moved, classify here (division 4). Where both the heat of ignition and the material first ignited move or were moved, classify in division 3. Misuse of smoking materials should be classified in the most appropriate heading of division 3.
- 41. Flammable liquid or gas spilled, released accidentally.  
Excluded are improper fueling (42) and accidental release due to improper container (45).
- 42. Improper fueling.  
Included are the use of the proper fuel for the equipment.  
Excluded are flammable gas, liquids spilled or released accidentally (41).
- 43. Flammable liquid used to kindle fire.
- 44. Washing part, cleaning, refinishing, painting with flammable liquid.
- 45. Improper container.  
Included are gasoline in glass, plastic containers.

46. Combustible placed too close to heat source.  
Included are storage near chimney, stovepipe, furnace, stove, incinerator.  
Excluded are situations where smoking materials were involved (division 3); or where both the heat of ignition and the material first ignited moved (division 3); or where combustibles are permanently installed too close to a heat source (63).
  47. Improper storage procedures.  
Included are spontaneous ignition, gas containers stored at excessive temperature.
  48. Children playing with combustibles and having no knowledge that fire can do damage.  
Included are gasoline, flammable liquids, pillows, towels.  
Excluded are intentional acts (11).
  49. Misuse of Material Ignited not classified above.
  40. Misuse of Material Ignited; insufficient information available to classify further.
  5. Mechanical Failure, Malfunction.  
Where the heat of ignition and the material first ignited are both stationary, classify in division 5 or 6.
    51. Automatic control failure.  
Included are delayed ignitions of automatic ignitors.
    52. Manual control failure.
    53. Short circuit, ground fault.
    54. Other part failure, leak, break.
    55. Other electrical failure.
    56. Lack of maintenance, worn out.  
Included are failures to maintain, burned-out incinerator, and spark arrester.  
Excluded are short circuits, ground faults (53), failure to clean (75), and railroad locomotive eductor tubes (75).
    57. Backfire.  
Included is ignition outside the combustion chamber.  
Excluded are fires originating as a result of hot catalytic converters (61).
    59. Mechanical Failure, Malfunction not classified above.
    50. Mechanical Failure, Malfunction; insufficient information available to classify further.
  6. Design, Construction, Installation Deficiency.
    61. Design deficiency.  
Included are catalytic converters, heat from properly operating equipment.
    62. Construction deficiency.  
Included are improperly built chimneys.
    63. Installed too close to combustibles.  
Included are structures or interior finish too close to chimneys, stove pipes, furnaces, stoves.  
Excluded is storage too close to heat source (46).
    64. Other installation deficiency.  
Included are improper installation of flame arrester, muffler, stove pipe, and factory built chimneys.
    65. No spark arrester when one is required or spark arrester improperly installed.
    69. Design, Construction, Installation Deficiency not classified above.
    60. Design, Construction, Installation Deficiency; insufficient information available to classify further.
  7. Operational Deficiency.  
Where equipment was misused, whether it moved or not, classify in division 7. Misuse of smoking materials should be classified in division 3.
    71. Collision, overturn, knockdown.  
Included are automobiles, vehicles.
    72. Accidentally turned on, not turned off.
    73. Equipment unattended.
    74. Equipment overloaded.  
Included are cords serving too many appliances.
    75. Failure to clean.  
Included are lint or grease buildups; chimneys, stove pipes, and railroad locomotive eductor tubes.
    76. Improper startup, shutdown procedures.
    77. Equipment used for purpose not intended.  
Excluded is overloaded equipment (74).
    78. Equipment not being operated properly.  
Included are situations where safety or control devices are bypassed.
    79. Operational Deficiency not classified above.
    70. Operational Deficiency; insufficient information available to classify further.
  8. Natural Condition.  
For use where the natural condition below changed a normally safe operation into an unsafe one.
    81. High wind.
    82. Earthquake.
    83. High water, including floods.
    84. Lightning.
    85. Low humidity.  
Excluded are static spark discharges (division 6).
    86. High temperature.
    87. Low temperature.
    89. Natural Condition not classified above.
    80. Natural Condition; insufficient information available to classify further.
  9. Other Ignition Factor.
    91. Animal.
    92. Rekindled from a previous fire.
    93. Exposure fire.
    95. Failure to use ordinary care under circumstances not classified above.
    99. Ignition Factor not classified above.
    90. Other Ignition Factor; insufficient information to classify further.
    00. Ignition Factor undetermined or not reported.
- 6-8 Level of Origin.** Level of origin identifies the distance either above or below grade level where an incident originated. This should be recorded as the story level or a number that represents the equivalent number of stories based on 10 ft (3 m) per story. A letter 'A' or 'B' should precede the number to indicate whether the level is above (A) or below (B) grade. In the case of a structure such as a tunnel, grade should be considered the level at the entrance.
- A fire on the ground story level of a building would be recorded as A001.
- A fire originating at the ceiling level in a warehouse 35 feet above the floor would be recorded as A004 (grade to 10 ft = 001, 11 ft to 20 ft = 002, 21 ft to 30 ft = 003 and 31 ft to 40 ft = 004).

## 6-9 Occupant of Room or Space of Origin at Time of Ignition.

**6-9.1** Occupant of room identifies the person or persons that were present in the room or space of origin at the time of ignition.

**6-9.2** The following numbers should be used to classify the occupant of room or space of origin at time of ignition.

1. Owner.  
Included are family members.
2. Employee and/or customer.
3. Lessee, renter, guest, patient.  
Included are family members.
4. Maintenance personnel.
5. Contractor on premises.
6. Trespasser.  
Included are fires in stolen vehicles.
7. Room or space of origin temporarily not occupied.  
Included are spaces where there have been no people present for up to one week.
8. Room or space of origin not occupied.  
Included are spaces where there have been no people present for one week or more.
9. Occupant of Room or Space of Origin at Time of Ignition not classified above.
0. Occupant of Room or Space of Origin at Time of Ignition undetermined or not reported.

## 6-10 Activity Involved in Fire Start.

**6-10.1** Activity involved identifies the activity of person(s) most involved with the ignition of the fire.

**6-10.2** The following numbers should be used to classify the activity involved in a fire start.

1. Inside activity normal to occupancy of structure.
2. Inside activity not normal to occupancy of structure.
3. Outside commercial activity.  
Included are logging operations, farming, construction, and transportation.
4. Outside noncommercial activity not recreational.
5. Hunting, fishing, hiking, sightseeing.
6. Camping, picnicking.
7. Off-road vehicular use.  
Included are the use of motor bikes, all terrain vehicles, and motor vehicles.
8. Malicious activity.
9. Activity Involved in Fire Start not classified above.  
Included are fires where there is no activity involved.
0. Activity Involved in Fire Start undetermined or not reported.

## 6-11 Wildland Fuel Model.

**6-11.1** The National Fire Danger Rating System (NFDRS) used by wildland fire agencies in the United States identifies a set of wildland fuel complexes from which fire behavior and spread estimates can be calculated. Each fuel model has a defined fuel depth, density, and load that represents fuel conditions found in various parts of the United States.

**6-11.2** Where wildland fuel model is to be recorded, the following classifications should be used.

01. Fuel Model A — Annual grasses.  
This fuel model represents grasslands vegetated by annual grasses and forbs. Brush or trees may be present but are very sparse, occupying less than one-third of the area. Examples of types where Fuel Model A should be used are cheatgrass and medusahead. Open pinyon-juniper, sagebrush-grass, and desert shrub association may appropriately be assigned this fuel model if the woody plants meet the density criteria. The quantity and continuity of the ground fuels vary greatly with rainfall from year to year.
02. Fuel Model B — Mature brush [2 m (6 ft) and over].  
Mature, dense fields of brush 2 m (6 ft) or more in height are represented by this fuel model. One-fourth or more of the aerial fuel in such stands is dead. Foliage burns readily. Model B fuels are potentially very dangerous, fostering intense, fast-spreading fires. This model is for California mixed chaparral generally 30 years or older. The B model is more appropriate for pure chamise stands. The B model may also be used for the New Jersey pine barrens.
03. Fuel Model C — Open pine with grass.  
Open pine stands typify Model C fuels. Perennial grasses and forbs are the primary ground fuel but there is enough needle litter and branchwood present to contribute significantly to the fuel loading. Some brush and shrubs may be present but they are of little consequence. Situations covered by Fuel Model C are open, longleaf, slash, ponderosa, Jeffrey, and sugar pine stands. Some pinyon-juniper stands may qualify.
04. Fuel Model D — Southern rough.  
This fuel model is specifically for the palmetto-gallberry understory-pine overstory association of the southeast coastal plains. It can also be used for the so-called "low pocosins" where Fuel Model O might be too severe. This model should only be used in the Southeast because of a high moisture of extinction.
05. Fuel Model E — Hardwood litter (fall).  
Use this model after leaf fall for hardwood and mixed hardwood-conifer types where the hardwoods dominate. The fuel is primarily hardwood leaf litter. The oak-hickory types are best represented by Fuel Model E, but E is an acceptable choice for northern hardwoods and mixed forests of the Southeast. In high winds, the fire danger may be underrated because rolling and blowing leaves are not accounted for. In the summer after the trees have leafed out, Fuel Model E should be replaced by Fuel Model R.
06. Fuel Model F — Intermountain West brush.  
Model F represents mature closed chamise stands and oak-brush fields of Arizona, Utah, and Colorado. It also applies to young, closed stands and mature, open stands of California mixed chaparral. Open stands of pinyon-juniper are represented; however, fire activity will be overrated at low wind-speeds and where there are sparse ground fuels.
07. Fuel Model G — West Coast conifers; close, heavy down materials.  
Fuel Model G is used for dense conifer stands where there is a heavy accumulation of litter and downed woody material. Such stands are typically overmature and may also be suffering insect, disease, wind, or ice damage—natural events that create a very heavy buildup of dead material on the forest floor. The duff and litter are deep, and much of the woody material is more than 7.5 cm (3 in.) in diameter. The undergrowth is variable, but shrubs are usually restricted to openings. Types meant to be represented by Fuel Model G are hemlock-Sitka spruce, Coast Douglas-fir, and wind-thrown or bug-killed stands of lodgepole pine and spruce.

08. Fuel Model H — Short needle conifers; normal, down woody materials.  
The short-needled conifers (white pines, spruces, larches, and firs) are represented by Fuel Model H. In contrast to Model G fuels, Fuel Model H describes a healthy stand with sparse undergrowth and a thin layer of ground fuels. Fires in H fuels are typically slow spreading and are dangerous only in scattered areas where the downed woody material is concentrated.
09. Fuel Model I — Heavy slash, clearcut conifers greater than 25 tons per acre.  
Fuel Model I was designed for clearcut conifer slash where the total loading of materials less than 15 cm (6 in.) in diameter exceeds 25 tons/acre. After settling and the fines (needles and twigs) fall from the branches, Fuel Model I will overrate the fire potential. For lighter loadings of clearcut conifer slash, use Fuel Model J, and for light thinnings and partial cuts where the slash is scattered under a residual overstory, use Fuel Model K.
10. Fuel Model J — Medium slash, heavily thinned conifers (less than 25 tons per acre).  
This model complements Fuel Model I. It is for clearcuts and heavily thinned conifer stands where the total loading of materials less than 15 cm (6 in.) in diameter is less than 25 tons/acre. Again, as the slash ages, the fire potential will be overrated.
11. Fuel Model K — Light slash (less than 15 tons per acre).  
Slash fuels from light thinnings and partial cuts in conifer stands are represented by Fuel Model K. Typically the slash is scattered about under an open overstory. This model applies to hardwood slash and to southern pine clearcuts where the loading of all fuels is less than 15 tons/acre.
12. Fuel Model L — Perennial grasses.  
This fuel model is meant to represent grasslands vegetated by perennial grasses. The principal species are coarser and the loading heavier than those in Model A fuels. Otherwise the situations are very similar; shrubs and trees occupy less than one-third of the area. The quantity of fuel in these areas is more stable from year to year. In sagebrush areas Fuel Model T may be more appropriate.
13. Not used in this edition.
14. Fuel Model N — Saw grass, marsh needle-like grass.  
This fuel model was constructed specifically for the sawgrass prairies of south Florida. It may be useful in other marsh situations where the fuel is coarse and reedlike. The model assumes that one-third of the aerial portion of the plants is dead. Fast-spreading, intense fires can occur even over standing water.
15. Fuel Model O — High pocosin.  
The O fuel model applies to dense, brushlike fuels of the Southeast. O fuels, except for a deep litter layer, are almost entirely living in contrast to B fuels. The foliage burns readily except during the active growing season. The plants are typically over 2 m (6 ft) tall and are often found under an open stand of pine. The high pocosins of the Virginia, North and South Carolina coasts are the ideal of Fuel Model O. If the plants do not meet the 2-m (6-ft) criteria in those areas, Fuel Model D should be used.
16. Fuel Model P — Southern long-needle pine.  
Closed, thrifty stands of long-needled southern pines are characteristic of P fuels. A 5- to 10-cm (2- to 4-in.) layer of lightly compacted needle litter is the primary fuel. Some small-diameter branchwood is present, but the density of the canopy precludes more than a scattering of shrubs and grass. Fuel Model P has the high moisture of extinction characteristic of the Southeast. The corresponding model for other long-needled pines is U.
17. Fuel Model Q — Alaska black spruce.  
Upland Alaskan black spruce is represented by Fuel Model Q. The stands are dense but have frequent openings filled with usually flammable shrub species. The forest floor is a deep layer of moss and lichens, but there is some needle litter and small-diameter branchwood. The branches are persistent on the trees, and ground fires easily reach into the tree crowns. This fuel model may be useful for jack pine stands in the Lake States. Ground fires are typically slow spreading, but a dangerous crowning potential exists.
18. Fuel Model R — Hardwood litter (summer).  
This fuel model represents the hardwood areas after the canopies leaf out in the spring. It is provided as the off-season substitute for F. It should be used during the summer in all hardwood and mixed conifer-hardwood stands where more than half of the overstory is deciduous.
19. Fuel Model S — Tundra.  
Alaskan or alpine tundra on relatively well-drained sites is the S fuel. Grass and low shrubs are often present, but the principal fuel is a deep layer of lichens and moss. Fires in these fuels are not fast spreading or intense, but are difficult to extinguish.
20. Fuel Model T — Sagebrush with grass.  
The bothersome sagebrush-grass types of the Great Basin and the Intermountain West are characteristic of T fuels. The shrubs burn easily and are not dense enough to shade out grass and other herbaceous plants. The shrubs must occupy at least one-third of the site or the A or L fuel models should be used. Fuel Model I might be used for immature scrub oak and desert shrub associations in the West, and the scrub oak-wire grass type in the Southeast.
21. Fuel Model U — Western long-needled pine.  
Closed stands of western long-needled pines are covered by this model. The ground fuels are primarily litter and small branchwood. Grass and shrubs are precluded by the dense canopy but occur in the occasional natural opening. Fuel Model U should be used for ponderosa, Jeffrey, sugar pine, and red pine stands of the Lake States. Fuel Model P is the corresponding model for southern pine plantations.
99. Wildland Fuel Model not applicable.
00. Wildland Fuel Model undetermined or not reported.

## 6-12 Motive for Incendiary Act.

**6-12.1** Motive identifies the reason a person caused the fire and can only be determined after a complete investigation.

**6-12.2** The following numbers should be used to classify the motive for an incendiary act after the complete investigation.

1. Fraud.  
Included are fires for direct or indirect gain.  
Excluded is crime concealment.
2. Pyromania, mental illness.  
Included are fires started to gain recognition and vanity fires.
3. Crime concealment.  
Included are destruction of books/records, evidence of fire to conceal murder, criminal activity.
4. Spite, revenge, anger.
5. Vandalism, malicious mischief.
6. Murder.
7. Civil disturbance, terrorist activity.
8. Suicide.
9. Motive for Incendiary Act not classified above.
0. Motive for Incendiary Act undetermined or not reported.

## Chapter 7 Incident Growth and Spread

**7-1 Purpose and Application.** The purpose of the data elements in this chapter is to provide a uniform way to identify factors contributing to the growth and spread of the fire. These elements can help in the identification and analysis of building and equipment design as it relates to these factors.

### 7-2 Contributing Factors.

**7-2.1** Contributing factors can be used to report incident information not captured by other data elements and that had a bearing on ignition, fire or smoke spread, incident complexity, or the existence of hazardous conditions. They should be used to clarify or complete elements of information that describe the incident.

**7-2.2** Consideration should be given to providing multiple fields for recording contributing factors so more than one factor could be recorded.

**7-2.3** The following numbers should be used to classify data about contributing factors.

1. Building Construction or Design Factors.
  111. Panelized roof.
  112. Roof collapse.
  113. Roof assembly combustible.  
Excluded is combustible roof covering (114).
  114. Roof covering.
  121. Ceiling collapse.
  122. Ceiling material combustible.
  123. Ceiling finish.
  124. Ceiling opening.
  125. Holes in walls or ceilings.
  131. Wall collapse.
  132. Wall combustible.
  133. Wall covering.
  134. Wall finish.
  135. Wall design or construction contributed to lapping.
  136. Partitions/partial walls.
  137. Balloon construction.
  141. Floor collapse.
  142. Floor material combustible.
  143. Floor covering.
  144. Floor finish.
  151. Fire doors: lack of.
  152. Fire doors: nonautomatic closure.
  153. Transoms.
  154. Window interior.
  155. Window exterior.
  161. Attic undivided.
  162. Attic openings.
  163. Hall undivided.
  164. Space inaccessible (created during construction or remodeling).
  165. Space undivided.
  166. Insulation: combustible.
  167. Insulation: lack of.
  168. Ducts: horizontal.
  171. Stairwell: exterior.
  172. Stairwell: interior.
  173. Stairwell not enclosed.
  174. Elevator shaft.
  175. Dumbwaiter.
  176. Ducts: vertical.
  177. Chute: rubbish, garbage, laundry, etc.
  181. Air supported structure.
  182. Open structure (walls with no roof and roof with no walls, i.e., cabana).
  183. Tent.
  184. Supports unprotected.
  185. Truss beam construction.
  186. Wood framing left in place.
  187. Fixed burglar protection assemblies (bars, grills on windows and doors).
  188. Quick release failure of bars on windows or doors.
  191. Installation deficiency.  
Included are insufficient space or insulation for heat-producing devices or systems.
  192. Previously damaged by fire.
  193. Pyrolysis (long term exposure to heat).
  194. Adhesives.
  199. Building Construction or Design Factors not classified above.
  100. Building Construction or Design Factors; insufficient information to classify further.
2. Act or Omission.  
Includes misuse of or improper operation of equipment.
  211. Altered device or mechanism.
  212. Careless act.
  213. Doors left open or outside door unsecured.
  214. Fire doors blocked.
  215. Improper operation.
  216. Maintenance inadequate.  
Included are poor housekeeping, improper clearance, and vegetation too close.
  217. Misuse of equipment.
  218. Violation of fire or life safety code.
  221. Fire in hazardous location.
  222. Illegal and clandestine drug operation.
  231. Drowsiness.
  232. Intoxication: drugs or alcohol.
  233. Impairment: mental or physical.
  241. Juvenile activity.
  242. Juveniles left unattended.
  243. Malicious mischief.
  244. Vandalism.
  251. Labor dispute.
  252. Gang activity.
  253. Riot or civil disturbance.  
Included are political activities/acts.
  254. Person(s) interfered with operations.
  261. Crime cover: murder.
  262. Crime cover: fraud.
  263. Crime cover: burglary, theft, other.
  264. Psychotic individual.
  265. Pyromaniac, thrill.
  266. Vanity, jealousy.
  267. Spite, grudge, revenge.
  271. Suicide.
  272. Self-immolation (deliberately setting oneself on fire).

- 273. Immolation — other (religious/ritual acts).
  - 281. Vandalism or malicious act.
  - 282. Breaking and entering.
  - 283. Accelerant used.
  - 284. Delayed ignition device.
  - 299. Acts or Omissions not classified above.
  - 200. Acts or Omissions; insufficient information to classify further.
3. Building Contents.
- 311. Aisles blocked.
  - 312. Aisles: improper width.
  - 313. Attic storage.
  - 314. Basement storage.
  - 315. Fireload excessive.
  - 316. Storage: improper.
  - 317. Storage: poor practice.
  - 321. Chemical: flammable liquid.
  - 322. Chemical: flammable solid.
  - 323. Chemical: corrosive liquid.
  - 324. Chemical: corrosive solid.
  - 325. Chemical: catalyst, initiator or oxidizer, liquid.
  - 326. Chemical: catalyst, initiator or oxidizer, solid.
  - 327. Explosives.
  - 331. Decorations.  
Included are crepe paper, garland, etc.
  - 332. Dust accumulation.
  - 341. Gas: natural.
  - 342. Gas: Liquefied Petroleum (L.P.).
  - 343. Gas: other.
  - 351. Furniture: general.
  - 352. Furniture: plastic.
  - 353. Fixtures.
  - 399. Building Contents not classified above.
  - 300. Building Contents; insufficient information to classify further.
4. Delays.
- 411. Detection of fire.
  - 412. Alarm (delay in reporting).
  - 413. Alarm system malfunction.
  - 414. System appropriately shut off.
  - 415. System inappropriately shut off.
  - 421. Unable to contact fire department.
  - 422. Unable to convey message.
  - 423. Unable to report.  
Included are non-emergency related mental or physical disability.
  - 424. Information incomplete or incorrect.  
Included are incorrect location.
  - 431. Blocked roadway due to construction.
  - 432. Blocked roadway (other).
  - 433. Fire department access blocked.
  - 434. Poor access for fire apparatus.
  - 441. Hydrant access blocked.
  - 442. Fire department connection access blocked.  
Included are sprinkler and standpipe connection.
  - 443. Poor access for fire fighters.
  - 444. Secured area.
  - 445. Guard dogs.
- 451. Apparatus failure at removed location.
  - 452. Hydrants inoperative.
  - 471. Hostile activity.
  - 499. Delays not classified above.
  - 400. Delays; insufficient information to classify further.
5. Protective Equipment.
- 511. Extinguishing system failure.
  - 512. Extinguishing system improper type.
  - 513. Extinguishing system inadequate.
  - 514. Extinguishing system not operational or shut off.
  - 521. Standpipe/fire department connection damage.
  - 522. Standpipe/fire department connection blockage.
  - 523. Standpipe/fire department connection failure.
  - 524. Standpipe/fire department connection improper installation.
  - 531. Water supply: inadequate private.
  - 532. Water supply: inadequate public.
  - 533. Pump failure.
  - 541. Smoke detector disconnected.
  - 542. Smoke detector battery failure.
  - 543. Smoke detector inoperative due to electrical power outage.
  - 544. Smoke detector inoperative due to fire progress that caused power failure.
  - 551. Fire extinguisher: improper maintenance.
  - 552. Fire extinguisher: improper type.
  - 561. Fire door: failure of rated assembly.
  - 562. Protective equipment or systems negated illegally or irresponsibly.  
Included are fire doors, dampers, sprinklers, etc.
  - 563. Special protective device failure.
  - 599. Protective Equipment not classified above.
  - 500. Protective Equipment; insufficient information to classify further.
6. Electrical or Mechanical Equipment.
- 611. Insulator broken on power line.
  - 612. Inadequate clearance around conductor or clearance from power line right-of-way.
  - 613. Short circuit in similar metal wiring systems.  
Included are like-metal connectors and wiring; i.e., all copper or all aluminum.
  - 614. Short circuit in dissimilar-metal wiring systems.  
Included are aluminum to copper connections.
  - 621. Control system: automatic.
  - 622. Control system: manual.
  - 623. Malfunction of equipment.
  - 631. Friction.
  - 632. Overheating.
  - 633. Rupture.
  - 699. Electrical or Mechanical Equipment not classified above.
  - 600. Electrical or Mechanical Equipment; insufficient information to classify further.
7. Natural Conditions.
- 711. Drought or low fuel moisture.
  - 712. Humidity: low.
  - 713. Humidity: high.
  - 714. Temperature.
  - 721. Fog.
  - 722. Flooding.

- 723. Ice.
  - 724. Rain.
  - 725. Snow.
  - 731. Lightning.
  - 732. Wind.  
Included are hurricane or tornado.
  - 733. Waves or tidal action (fresh or salt water).
  - 741. Earthquake.
  - 742. Volcanic activity.
  - 751. Animal activity.  
Included are birds.
  - 760. Vegetation fuel loading.
  - 799. Natural Conditions not classified above.
  - 700. Natural Conditions; insufficient information to classify further.
8. Fireworks.
- 811. Smoke Bomb.
  - 812. Base Fountain.
  - 813. Party Popper.
  - 814. Cone Fountain.
  - 815. Wheel.
  - 816. Sparkler with wire core.
  - 817. Sparkler with wooden core.
  - 818. Handle Fountain.
  - 821. California Candle with or without handle.
  - 822. Torpedo, snap cap.
  - 823. Ground spinner, ground flowers.
  - 831. Firecracker.  
Included are Ladyfingers.
  - 832. Destructive device: M-80 or larger.
  - 833. Silver Salute, M-70.
  - 834. Cherry Bomb.
  - 835. Roman Candle.
  - 836. Sky Rocket.
  - 837. Bottle Rocket.
  - 838. Missile Rocket.
  - 839. Mortars or Cannons.
  - 841. Agricultural and wildlife control devices.
  - 851. Public display devices.
  - 852. Special effects devices used in the entertainment industry.
  - 861. Model rocket, premanufactured and sealed engine.
  - 862. Amateur or experimental rocketry.
  - 871. Emergency signaling devices, fuses.
  - 872. Military device.  
Included are tracers.
  - 873. Railroad Torpedo.
  - 881. Homemade devices not made from commercial fireworks.
  - 882. Commercial devices that have been altered or modified.
  - 891. Fireworks that are legal to possess, use, or sell in jurisdiction.
  - 892. Fireworks that are illegal to possess, use, or sell in jurisdiction.
  - 899. Fireworks not classified above.
  - 800. Fireworks; insufficient information to classify further.

**7-3 Flame Development.** The identification of the materials on which the flames developed and spread, as well as the factors that contributed to the flame travel is useful in understanding how the fire advanced through the structure. Fire

spread not only contributes to increased monetary loss, but may cut off avenues of escape or create unsafe structural conditions which then effect fire-fighting operations.

### 7-3.1 Materials Involved.

**7-3.1.1** Often there is not just one significant path of flame travel. Consideration should be given to providing multiple fields for recording materials involved in flame development and spread. If only one material or path is to be reported, it should be that which had the most impact on life safety or, if that was not a factor, the one that significantly allowed the fire to spread.

**7-3.1.2** When materials involved in flame development and spread are classified, both the form of the material (its use) and the type of material (its composition) should be identified. The classification numbers in Section 6-6 for material identification should be used to classify materials involved in fire spread.

### 7-3.2 Factor Contributing to Flame Travel.

**7-3.2.1** Factors contributing to flame travel identify the conditions or avenue that allowed rapid, unusual, or intense flame spread (char) in or beyond the room or area of origin.

**7-3.2.2** The following numbers may be used to classify data about factors that contribute to flame travel.

- 1. Interior Finish.
  - 11. Combustible ceiling finish, covering.
  - 12. Combustible wall finish, covering.
  - 13. Combustible floor finish, covering.
  - 14. Combustible ceiling and wall finish, covering.
  - 15. Combustible ceiling and floor finish, covering.
  - 16. Combustible wall and floor finish, covering.
  - 17. Combustible ceiling, wall, floor finish.
  - 19. Interior Finish allowing fire spread not classified above.
- 2. Structural Factor Allowing Vertical Travel.
  - 21. Nonenclosed stairwell, elevator shaft.
  - 22. Inadequate firestopping.  
Included are inside of walls, around pipes, poke-throughs, and the like.
  - 23. Air-handling ducts.
  - 24. Utility shaft, pipe shaft.
  - 25. Failure of a rated assembly.
  - 26. Exterior spread.
  - 27. Floor, ceiling.
  - 29. Structural Factor Allowing Vertical Travel not classified above.
- 3. Structural Factor Allowing Horizontal Travel.
  - 31. Air-handling duct.
  - 32. Attic space, ceiling, concealed space.
  - 33. Door burned through.
  - 34. Door open.
  - 35. Corridor, excessive open area.
  - 36. Utility opening, pipe opening.
  - 37. Window.
  - 38. Wall.
  - 39. Structural Factor Allowing Horizontal Travel not classified above.

4. Physical Transfer of Material Ignited.
  41. Human being, animal.
  42. Conveyor, special materials handling equipment.
  43. Gravity (fell on).
  44. Wind.
  45. Pipeline, material transfer system.
  49. Physical Transfer of Material Ignited not classified above.
5. Building Contents.
  51. Decoration.
  52. Furniture, fixture.
  53. Flammable liquid not properly handled or contained.
  54. Flammable gas not properly handled or contained.
  55. Flammable dust, solid chemical.
  56. Explosive, fireworks.
  57. Stored material.
  59. Building Contents not classified above.
9. Other Flame Travel Factor.
  98. No important factor contributing to flame travel.
  99. Factor Contributing to Flame Travel not classified above.
  00. Factor Contributing to Flame Travel undetermined or not reported.

**7-4 Smoke Development.** The identification of the materials that contributed to the smoke development and spread, as well as the avenue the smoke traveled, is useful in understanding why persons are injured by smoke or have trouble escaping from areas of the structure not directly affected by flames. Smoke spread not only contributes to increased monetary loss, but may cut off avenues of escape or create toxic or lethal destructive atmospheres in areas remote from the fire.

#### 7-4.1 Materials Involved.

**7-4.1.1** Often there is not just one significant material involved in smoke development or one avenue of smoke travel. Consideration should be given to providing multiple fields for recording materials involved in smoke development and avenues of spread. If only one material or path is to be reported, it should be that which had the most impact on life safety.

Normally smoke development for reporting purposes is not significant unless there is significant smoke beyond the room of origin. However, in large rooms such as are found in warehouses, significant smoke development and spread can occur in the room of origin.

**7-4.1.2** When materials involved in smoke development and spread are classified, both the form of the material (its use) and the type of material (its composition) should be identified. The classification numbers in Section 6-6 for material identification should be used to classify materials involved in smoke spread.

#### 7-4.2 Avenue of Smoke Travel.

**7-4.2.1** The avenue of smoke travel identifies how the smoke traveled beyond the room or area of origin.

**7-4.2.2** The following numbers should be used to classify data about the avenue of smoke travel.

1. Air-handling duct, plenums.
2. Corridor.

3. Elevator shaft.
4. Stairwell.
5. Open construction.  
Included are floor space, ceiling space, atriums.  
Excluded are spaces used as plenums (1).
6. Utility opening.
7. Doorway, passageway.  
Included are normal openings between rooms.  
Excluded are smoke travel in corridors (2) and stairwells (4).
9. Avenue of Smoke Travel not classified above.
0. Avenue of Smoke Travel undetermined or not reported.

### 7-5 Fire Detection and Alarm.

#### 7-5.1 Method of Detection.

**7-5.1.1** This data element is used to identify the first person or system to detect the fire regardless of what action that person or system took toward reporting the fire. This data element allows the studying of the advantages and disadvantages of different methods of detection. It also allows separation of detection "internal" to the property from that outside, helping explain delays in detection.

**7-5.1.2** The following numbers should be used to classify data about the method of detection.

1. Building or Property Occupant.
  11. Resident.
  12. Tenant, permittee.
  13. Contractor personnel.
  19. Building or Property Occupant not classified above.
  10. Building or Property Occupant; insufficient information available to classify further.
2. Watchman, Guard for the property on a full-time basis.
  21. Building or property guard.
  22. Reporting agency fire lookout.
  23. Cooperator fire lookout.
  24. Reporting agency fire guard.
  25. Cooperator fire guard.
  29. Watchman, Guard not classified above.
  20. Watchman, Guard; insufficient information available to classify further.
3. Roving Police, Guard Patrol.
  31. Reporting agency roving fire patrol.
  32. Cooperator roving fire patrol.
  33. Roving non-fire patrol.
  39. Roving Police, Guard Patrol not classified above.
  30. Roving Police, Guard Patrol; insufficient information available to classify further.
4. Non-occupant.
  41. Non-occupant.
  42. Visitor in area.
  43. Neighbor.
  44. On duty reporting agency employee (including volunteers).
  45. Cooperator or cooperator employee.
  49. Non-occupant not classified above.
  40. Non-occupant; insufficient information available to classify further.



- 5. Automatic Suppression System with Alarm.
  - 50. Automatic suppression system with alarm.
- 6. Automatic Fire, Heat, Smoke Detection System.
  - 60. Automatic fire, heat, smoke detection system.
- 7. Aerial Detection.
  - 71. Agency fire patrol aircraft.
  - 72. Cooperator fire patrol aircraft.
  - 73. Aircraft in vicinity.
  - 74. Aircraft on regular route passing through area.
  - 75. Infrared detection system.
  - 76. Satellite.
  - 79. Aerial Detection not classified above.
  - 70. Aerial Detection; insufficient information available to classify further.
- 8. Fire Detected but No Alarm Given.
  - 81. Detected after self-termination, damage easily visible.
  - 82. Detected after self-termination, damage not easily visible.
  - 80. Detected after self-termination; insufficient information available to classify further.
- 9. Method of Detection not classified above.
  - 99. Method of Detection not classified above.
- 0. Method of Detection undetermined or not reported.
  - 00. Method of Detection undetermined or not reported.

## 7-5.2 Method of Alarm to the Fire Department.

**7-5.2.1** This data element is used to describe the method by which the incident was first brought to the attention of the fire department or appropriate alarm center. It is used to measure the different methods by which alarms are reported. This can determine the use of and accessibility to different communication methods to the fire department which can be useful in making investment decisions.

**7-5.2.2** The following numbers should be used to classify data about the method of alarm to the fire department.

- 1. 911 direct to fire service.  
The reporting person dials 911 and reaches the fire alarm center.
- 2. 911 direct to other agency with transfer capability.  
The reporting person dials 911 and reaches some agency other than the fire alarm center and the call must be transferred to the fire alarm center.
- 3. Direct to fire service, not 911.  
The reporting person dials a regular telephone number and reaches the fire alarm center.
- 4. Direct to other agency with transfer capability, not 911.  
The reporting person dials a regular telephone number and reaches some agency other than the fire alarm center and the call must be transferred to the fire alarm center.
- 5. Radio.  
Included are fires reported by radio from vehicles on fire department, police department, natural resources department, or citizens band radio frequencies directly to alarm headquarters.
- 6. Direct contact by person to fire service.  
Included are fires seen from or reported to a fire station.

- 7. Municipal fire alarm system.  
Included are telegraph systems, radio systems, voice signal systems, and auxiliary connections to them.
- 8. Private fire alarm system.  
Included are signals received from central stations and remote stations.
- 9. Method of Alarm to the Fire Department not classified above.
- 0. Method of Alarm to the Fire Department undetermined or not reported.

## 7-5.3 Delay in Alarm.

**7-5.3.1** When there is a delay in the transmission of an alarm, that delay is often at least partially responsible for the incident growing in magnitude beyond what might have been easily handled by the fire department. Understanding the reason for the delay can help explain the extent of damage. When evaluated over a number of incidents, the reasons for delays can point to the need for corrective action by the fire department whether through public education or other actions.

**7-5.3.2** When the reason for delays in alarm is recorded and classified, it should reflect the cause for any unusual delay in transmission of an alarm to the fire department once the fire was detected. The following numbers should be used to classify data about the delay in an alarm.

- 1. Investigating or taking time to verify there was an emergency.
- 2. Assumed that the fire department had already been notified.
- 3. Too busy with emergency.  
Included are trying to rescue other persons or remove property, determining the extent of the emergency, or taking inappropriate actions such as calling the owner, notifying management, etc.  
Excluded are investigating to determine whether there is an emergency (1) and actual fire fighting (4).
- 4. Thought could control fire or emergency by self.
- 5. The person reporting the fire was unable to get through to the fire department on phone.
- 6. The person reporting the fire could not convey the correct message.  
Included are situations where the person discovering the fire was physically or mentally disabled (not fire related) to a degree it interfered with their ability to promptly notify the fire department and situations where the person reporting the emergency could not speak the same language as the alarm operator.
- 7. Alarm transmission system failure.  
Included are alarm box malfunctions.
- 8. No unusual delay.
- 9. Delay in Alarm not classified above.
- 0. Delay in Alarm undetermined or not reported.

**7-6 Weather Information.** Weather condition data is important to assess the effects of weather on response time, control of incidents, functioning of equipment, and type of equipment required.

**7-6.1 Type of Weather.** The following numbers should be used to classify data about the type of weather.

- 1. Clear.
- 2. Cloudy.
- 3. Rain.
- 4. Snow.

5. Hail, sleet, ice storm.
6. Electrical storm.
7. Fog.
8. High winds, hurricane, tornado.
9. Type of Weather not classified above.
0. Type of Weather undetermined or not reported.

**7-6.2 Air Temperature.** Air temperature is the amount of heat in the air. Air temperature is useful because extreme temperatures have a negative effect on the environment, personnel, and equipment.

Temperature should be recorded by its actual value and expressed in degrees using either the Fahrenheit (F) scale or the Celsius (C) scale. The scale must be included as part of the reading. In addition, when expressing a value (degrees) below zero, a negative sign (–) must be placed before the number. For example: five degrees below zero Celsius should be recorded as –5°C and 75 degrees Fahrenheit is recorded as 75°F.

**7-6.3 Relative Humidity.** Relative humidity is the ratio of moisture the air in a given volume of space contains to the total moisture that a volume would contain if it were saturated. Relative humidity should be recorded as a numeric value between 1 and 100 percent.

**7-6.4 Wind Direction.** The following numbers should be used to classify data about the direction from which the wind is blowing.

1. North.
2. Northeast.
3. East.
4. Southeast.
5. South.
6. Southwest.
7. West.
8. Northwest.
9. Shifting winds.
0. Wind Direction undetermined or not reported.

**7-6.5 Wind Speed.** Wind speed can be recorded either as a direct numeric entry showing the actual speed in miles per hour or for most purposes, recording the wind speed class is sufficient. If wind speed is recorded as a classification, the following numbers should be used.

1. Less than 1 mph (2 km/hr).  
Smoke rises vertically.
2. 1 mph to 4 mph (2 km/hr to 6 km/hr).  
Direction of wind shown by smoke drift but not by weather vanes.
3. 5 mph to 8 mph (7 km/hr to 13 km/hr).  
Wind felt on face; rustles leaves; ordinary vanes moved by wind.
4. 9 mph to 14 mph (14 km/hr to 22 km/hr).  
Leaves and small twigs in constant motion; wind extends light flag.
5. 15 mph to 20 mph (23 km/hr to 32 km/hr).  
Wind raises dust and loose papers; small branches are moved.
6. 21 mph to 25 mph (33 km/hr to 40 km/hr).  
Small trees and leaves begin to sway; crested wavelets form on inland waters.

7. 26 mph to 31 mph (41 km/hr to 50 km/hr).  
Large branches in motion; whistling heard on wires; umbrellas used with difficulty.
8. 32 mph to 46 mph (51 km/hr to 74 km/hr).  
Whole trees in motion; small twigs break off trees; walking against wind impeded.
9. Over 46 mph (Over 74 km/hr).  
Slight to heavy structural damage; branches break; trees uprooted above 60 mph (96 km/hr and up).
0. Wind Speed undetermined or not reported.

## Chapter 8 Detection, Alarm, and Control Equipment

**8-1 Purpose and Application.** The purpose of the data elements outlined in this chapter is to provide a uniform way to identify protection and detection systems and their effectiveness and use.

These data elements can be used to identify how occupants are alerted, the type and coverage of automatic extinguishment, the actions of the fire department, and the effectiveness of the various fire defenses. In general, a series of data elements should be collected for each fire defense measure, including type of system, coverage provided by the system, performance or effectiveness of the system, and the reason for the system's failure.

**8-2 Limitations.** The data elements describe fire defense features of an occupancy as well as classifying the actions of the protection systems and the effectiveness of those systems during a fire. The incident report classification of protection systems is not intended to describe the design criteria but rather to describe the effectiveness of that system. For example, a building might be equipped with a complete sprinkler system, but that system might not have been designed for the specific hazard it was protecting. The fire officer is not likely to have knowledge of how the system was designed at the time the incident report is completed.

### 8-3 Definitions.

**Manual.** As applied to fire protection devices, a device or system activated by human action.

**Water Supply Flow.** The sustained water supply capacity available for a period of 1 hour to apparatus on the first alarm.

**8-4 Automatic Detection.** The intent of this section is to track systems designed to detect fires and to trigger an alarm, activate an extinguishing system, or take some other action automatically.

#### 8-4.1 Automatic Detector Coverage.

**8-4.1.1** Automatic detector coverage measures the extent to which a fire in the property might be detected by an automatic system. This data element does not measure where the signal from a detector goes or whether it automatically notifies someone responsible for emergency action.

**8-4.1.2** The following numbers should be used to classify data about automatic detection coverage.

1. Complete automatic detection coverage.  
The system complies with the requirements of NFPA 72, *National Fire Alarm Code*.
2. Partial automatic detection coverage.
8. No automatic detection.

9. Automatic Detection not classified above.
0. Automatic Detection undetermined or not reported.

#### 8-4.2 Detector Type.

**8-4.2.1** This data element identifies the type and operating principle of a smoke, heat, flame, or gas detector present in the area of origin or in near proximity to the area of origin such that it would be instrumental in detecting the fire in its early stages.

This data element can also be used with the data element "Detector Power Supply" (see 8-4.3) in a pre-fire inventory to further explain the type of automatic detection recorded in 8-4.1.

**8-4.2.2** The following numbers should be used to classify data about detector type.

1. Smoke detector.
2. Heat detector.
3. Combination smoke detector and heat detector.
4. Sprinkler/water flow detection.
5. Special hazard system release device.
6. More than 1 type of detection system present.
8. No detector present.
9. Other type detector present.  
Included are gas sensing and flame sensing devices.
0. Detector Type undetermined or not reported.

#### 8-4.3 Detector Power Supply.

**8-4.3.1** The reliability of the detector power supply is an important part of detector performance, especially if maintenance was poor or a power failure occurred before or during the fire.

This data element can also be used with the data element "Detector Type" (see 8-4.2) in a pre-fire inventory to further explain the type of automatic detection recorded in 8-4.1.

**8-4.3.2** The following numbers should be used to classify data about the detector power supply.

1. Battery only.
2. Hard wire only.
3. Plug in only.
4. Hard wire with battery backup.
5. Plug in with battery backup.
6. Mechanical power.  
Included are springs and pressurized cylinders of gas.
7. More than one type of power supply (different detectors).
8. No detector present.
9. Detector Power Supply not classified above.
0. Detector Power Supply undetermined or not reported.

#### 8-4.4 Performance of Fire Detection Equipment.

**8-4.4.1** This data element is used to measure the relationship of detection equipment to the area of origin and whether the detection equipment operated or not. This data element is

not designed to evaluate any alarm transmission capability of the system but just the detection of the fire.

**8-4.4.2** The following numbers should be used to classify data about the performance of fire detection equipment.

1. Detector(s) in the room or space of fire origin, and it alerted the occupants.
2. Detector(s) not in the room or space of fire origin, and it alerted the occupants.
3. Detector(s) in the room or space of fire origin, and it did not operate.  
Excluded are situations where the fire was too small to cause the detector to operate (5).
4. Detector(s) not in the room or space of fire origin, and it did not operate.  
Excluded are situations where the fire was too small to cause the detector to operate (5).
5. Detector(s) present, but fire too small to cause it to operate.
6. Detector(s) operated but was not a factor in the discovery of the fire.
7. Detector(s) operated but the occupants failed to respond to detector notification.
8. No detectors present.
9. Performance of Fire Detection Equipment not classified above.
0. Performance of Fire Detection Equipment undetermined or not reported.

#### 8-4.5 Reason for Detector Failure.

**8-4.5.1** This data element is used to measure the reason why a detector failed to operate properly if there was a detector failure.

**8-4.5.2** The following numbers should be used to classify data about the reason for detector failure.

1. Failure of hardwired power supply.  
Included are power supply shut off or disconnected.
2. Improper installation or placement of detector.  
Included are situations where the detector is placed in dead air space.
3. Defective detector instrument.
4. Inadequate maintenance.  
Included are lack of cleaning.  
Excluded are missing batteries (5) and discharged batteries (6).
5. Battery missing or disconnected.
6. Battery was discharged.
8. No detector failure.
9. Reason for Detector Failure not classified above.
0. Reason for Detector Failure undetermined or not reported.

#### 8-5 Automatic Alarm Transmission.

**8-5.1** This section classifies the automatic alarm system transmission features provided to get the alarm from the structure to the responding fire department. NFPA 72, *National Fire Alarm Code*, provides system details.

**8-5.2** The following numbers should be used to classify data about the automatic alarm transmission equipment.

1. Remote station system to fire department managed location. An alarm system connecting protected premises over leased telephone lines to a fire department location such as the communication center. It includes a separate receiver for the individual functions being monitored such as a fire alarm signal or a sprinkler waterflow alarm.
2. Remote station system to non-fire-department managed location. An alarm system connecting protected premises over leased telephone lines to a site other than a fire department managed location. It includes a separate receiver for the individual functions being monitored such as a fire alarm signal or a sprinkler waterflow alarm.
3. Proprietary system. An alarm system that serves contiguous or noncontiguous properties under one ownership from a central supervising station at a protected property. It is similar to a central station system but is owned by the protected property.
4. Central station system. An alarm system connecting protected premises to a privately owned central station whose function is to monitor the connecting lines constantly and record any indication of fire, supervisory, or trouble signals from the protected premises. When a signal is received, the central station will take such action as is required, such as informing the municipal fire department of a fire.
5. Auxiliary system with automatic master-box. An alarm system utilizing a standard municipal coded fire alarm box to transmit a fire alarm from the protected premises to the municipal fire department. These alarms are received on the same municipal equipment and are carried over the same transmission lines as are used to connect fire alarm boxes on the street. Operation is initiated by the local fire detection and alarm system installed at the protected property.
6. Manual local. Alarms sound to warn occupants; does not transmit remotely.
7. Manual remote. Transmits alarm to remote site.
8. No automatic alarm transmission equipment provided.
9. Automatic Alarm Transmission Equipment not classified above.
0. Automatic Alarm Transmission Equipment undetermined or not reported.

## 8-6 Protection.

**8-6.1 Sprinkler Systems.** The intent of this section is to track the presence and performance of sprinkler systems as an automatic extinguishing system.

### 8-6.1.1 Type of Sprinkler System.

**8-6.1.1.1** This data element is used to define the operating principle of the sprinkler system. Details on sprinkler systems are defined in NFPA 13, *Standard for the Installation of Sprinkler Systems*; NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*; and NFPA 13R, *Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height*.

**8-6.1.1.2** The following numbers should be used to classify data about the type of sprinkler system.

1. Wet pipe sprinkler system.
2. Dry pipe sprinkler system.

3. Deluge sprinkler system.
4. Pre-action sprinkler system.
5. Combined dry pipe and pre-action sprinkler system.
6. System using "on-off" sprinkler heads.
7. Open head(s) sprinkler system, manually operated.
8. No sprinkler protection.
9. Type of Sprinkler System not classified above.
0. Type of Sprinkler System undetermined or not reported.

### 8-6.1.2 Coverage of Automatic Sprinkler System.

**8-6.1.2.1** This data element is used to measure how complete the coverage provided by the sprinkler system is within the structure and whether the system is installed in accordance with recognized standards. "Standard installation" means that an installation conforms to all applicable requirements of NFPA 13, *Standard for Installation of Sprinkler Systems*.

**8-6.1.2.2** The following numbers should be used to classify data about the coverage of an automatic sprinkler system.

1. Complete coverage, standard installation.
2. Complete coverage, nonstandard installation or compliance with standard for installation not determined.
3. Partial coverage, in above grade and below grade areas, standard installation.
4. Partial coverage, in above grade and below grade areas, nonstandard installation or compliance with standard for installation not determined.
5. Partial coverage, in below grade areas only, standard installation.
6. Partial coverage, in below grade areas only, nonstandard installation or compliance with standard for installation not determined.
7. Partial coverage, in above grade areas only. Included are standard and nonstandard installations.
8. No sprinkler protection.
9. Coverage of Automatic Sprinkler System not classified above.
0. Coverage of Automatic Sprinkler System undetermined or not reported.

**8-6.1.3 Number of Automatic Sprinklers that Operated.** It is important to record the number of sprinklers that operated. This is an indication of how fast the fire progressed but is not necessarily an indication of the performance of the sprinkler system. The data elements "Performance of Automatic Extinguishing System" (*see 8-6.2.3*) and "Reason for Extinguishing System Failure" (*see 8-6.2.4*) should be used to record the performance of the sprinkler system and the reasons for any failures.

## 8-6.2 Special Hazard Systems.

### 8-6.2.1 Type of Special Hazard System.

**8-6.2.1.1** This data element is used to record the identification of a fire or explosion suppression system other than automatic sprinklers within a business or tenant space. The hazard the suppression system is designed to protect should also be recorded.

**8-6.2.1.2** The following numbers should be used to classify data about the type of special hazard system present. Classification 7 allows for indicating there are multiple systems if a

particular reporting system allows for classifying only one system but details of each system should be recorded.

1. Dry chemical system.  
Included are systems that use sodium bicarbonate, potassium bicarbonate, urea-based potassium bicarbonate, potassium chloride, or monoammonium phosphate as an agent. See NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, for guidance on system design.
2. Foam system.  
Included are systems using protein, fluoroprotein, halo-fluoroprotein, and low temperature protein foam; high expansion foam, aqueous film forming foam (AFFF), and wetting agent foam. See NFPA 11, *Standard for Low-Expansion Foam*, and NFPA 11A, *Standard for Medium- and High-Expansion Foam Systems*, for guidance on system design. Excluded are chemical foam systems (9).
3. Water spray system.  
See NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, for guidance on system design.
4. Halogenated fire extinguishing agent system.  
Included are systems using Halon 1211, Halon 1301, or other halons as agents. See NFPA 12A, *Standard on Halon 1301 Fire Extinguishing Systems* for guidance on system design.
5. Carbon dioxide system.  
See NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*, for guidance on system design.
6. Explosion suppression system.  
See NFPA 69, *Standard on Explosion Prevention Systems*, for guidance on system design.
7. Multiple special hazard systems.
8. No special hazard system.
9. Type of Special Hazard System not classified above.  
Included are steam smothering systems, chemical foam systems, and systems dispensing dry powder for metal fires.
0. Type of Special Hazard System undetermined or not reported.

### 8-6.2.2 Coverage of Special Hazard System.

**8-6.2.2.1** This data element is for use with the data element "Type of Special Hazard System" (see 8-6.2.1). It is used to classify an evaluation of the extent of coverage provided by the special hazard system. The applicable standards and codes for each type of special hazard system are shown in 8-6.2.1.2 and should be used to evaluate the installation.

**8-6.2.2.2** The following numbers should be used to classify data about the coverage of a special hazard system. "Total flooding" means completely filling the room or space protected. "Local application" means completely protecting the hazard within a room or space. A restaurant hood and duct system is a "local application."

1. Standard installation, total flooding.
2. Standard installation, local application.
3. Nonstandard installation or compliance with standard for installation not determined, total flooding.
4. Nonstandard installation or compliance with standard for installation not determined, local application.
7. Multiple special hazard systems.
8. No special hazard system present.
9. Coverage of Special Hazard System not classified above.
0. Coverage of Special Hazard System undetermined or not reported.

### 8-6.2.3 Performance of Automatic Extinguishing System.

**8-6.2.3.1** This data element records the evaluation of the performance of an automatic suppression system in the room or space of fire origin. If the automatic suppression system performance was not satisfactory, details of the failure should be explained. The data element "Reason for Extinguishing System Failure" (see 8-6.2.4) should be used to record the failure.

Use this data element with "Type of Sprinkler System" (see 8-6.1.1) and "Type of Special Hazard System" (see 8-6.2.1).

**8-6.2.3.2** The following numbers should be used to classify data about the performance of an automatic extinguishing system.

1. Equipment operated and was effective in controlling or extinguishing the fire.
2. Equipment operated and was effective in controlling or extinguishing the fire.
3. Equipment should have operated but did not.
4. Equipment present but fire too small to require operation.
8. No equipment present in room or space of fire origin.
9. Performance of Automatic Extinguishing Equipment not classified above.
0. Performance of Automatic Extinguishing Equipment undetermined or not reported.

### 8-6.2.4 Reason for Extinguishing System Failure.

**8-6.2.4.1** If there was an automatic suppression system in the room or space of fire origin and it failed to operate as designed, this data element is used to record the reasons for the failure. This data element should be used in conjunction with data element "Type of Sprinkler System" (see 8-6.1.1) and "Type of Special Hazard System" (see 8-6.2.1).

**8-6.2.4.2** The following numbers should be used to classify data about the reasons for an extinguishing system failure.

1. Extinguishing system shut off.
2. Not enough agent discharged to control the fire.
3. Agent discharged could not reach the fire.  
Included are situations where the fire was above the discharge head, the fire originated in an unprotected space, or the discharged agent was shielded from the fire by stock, machinery, or contents.
4. Extinguishing system piping damaged.
5. No discharge heads in room or space of fire origin, including concealed spaces.
8. No extinguishing system failure.
9. Reason for Extinguishing System Failure not classified above.
0. Reason for Extinguishing System Failure undetermined or not reported.

**8-6.3 Manual Protection Systems or Devices Available.** It is useful to know what systems or devices are or were available to the occupants of the building or the fire department to deal with the fire. A factor in the size of the fire may be what is available in the immediate area for manual fire-fighting equipment.

**8-6.3.1 Portable Fire Extinguishers.** The following numbers should be used to classify data about the presence of portable fire extinguishers. "Standard installation" means that an

installation conforms to all applicable requirements of NFPA 10, *Standard for Portable Fire Extinguishers*.

1. Complete coverage, standard installation.
2. Complete coverage, nonstandard installation or compliance with standard for installation not determined.
3. Partial coverage, standard installation.
4. Partial coverage, nonstandard installation or compliance with standard for installation not determined.
8. No portable fire extinguishers.
9. Portable Fire Extinguishers not classified above.
0. Portable Fire Extinguishers undetermined or not reported.

**8-6.3.2 Occupant Hose.** The following numbers should be used to classify data about the presence of occupant hose stations. “Standard installation” means that an installation conforms to all applicable requirements of NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*.

1. Complete coverage, standard installation.
2. Complete coverage, nonstandard installation or compliance with standard for installation not determined.
3. Partial coverage, standard installation.
4. Partial coverage, nonstandard installation or compliance with standard for installation not determined.
8. No occupant hose.
9. Occupant Hose not classified above.
0. Occupant Hose undetermined or not reported.

**8-6.3.3 Standpipe System.** The following numbers should be used to classify data about the presence of standpipe systems. “Standard installation” means that an installation conforms to all applicable requirements of NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*.

1. Complete coverage, standard installation.
2. Complete coverage, nonstandard installation or compliance with standard for installation not determined.
3. Partial coverage, standard installation.
4. Partial coverage, nonstandard installation or compliance with standard for installation not determined.
8. No standpipe system.
9. Standpipe System not classified above.
0. Standpipe System undetermined or not reported.

## 8-7 Water Supply.

**8-7.1 Water Supply Type.** The following numbers should be used to classify data about the type of water supply available. Recognized water systems are engineered water main and hydrant systems under pressure.

1. Recognized water system, hydrants within 500 ft (150 m).
2. Recognized water system, hydrants 500 ft to 999 ft (150 m to 299 m) away.
3. Recognized water system, hydrants 1,000 ft (300 m) or more away.
4. Outside of recognized water system, other water source available within 500 ft (150 m).
5. Outside of recognized water system, other water source available 500 ft to 999 ft (150 m to 299 m) away.

6. Outside of recognized water system, other water source 1,000 ft (300 m) or more away.
8. No water available.
9. Water Supply Type not classified above.
0. Water Supply Type undetermined or not reported.

**8-7.2 Water Supply Flow.** The flow should reflect the sustained water supply capacity available for a period of 1 hour to apparatus responding on the first alarm. It should be recorded in gallons per minute (gpm).

## 8-8 Performance of Fire Spread Limitation Features.

**8-8.1** This data element can be used in conjunction with the data elements that define compartment quality (*see Section 5-7*) to measure the performance of one of the buildings fire defense measures. Fire spread limitation devices include enclosing walls, doors, dampers, and the like.

**8-8.2** The following numbers should be used to classify data about the performance of fire spread limitation devices.

1. Operated satisfactorily.
2. Operated unsatisfactorily.
3. Fire too small to affect performance.
8. No fire spread limitation features.
9. Performance of Fire Spread Limitation Features not classified above.
0. Performance of Fire Spread Limitation Features undetermined or not reported.

## 8-9 Performance of Exit System.

**8-9.1** This data element can be used in conjunction with the data elements that define the exit quality (*see Chapter 5*) to measure the performance of one of the building's exit systems. The exit system performance should take into account all building factors relating to the egress of occupants from the building under fire conditions.

**8-9.2** The following numbers should be used to classify data about the performance of the exit system.

1. Enabled timely egress for all occupants.
2. Restricted egress for one or more occupants.
3. Prevented egress for one or more occupants.
8. No occupants present.
9. Performance of Exit System not classified above.
0. Performance of Exit System undetermined or not reported.

# Chapter 9 Fire Department Intervention

**9-1 Purpose.** This chapter describes what the fire department found and did and with what results. This data is useful in determining workload, effectiveness, training and equipment needs, and fire fighter safety.

**9-2 Limitations.** These data elements may be inadequate to describe multiple activities on the fire scene, i.e., simultaneous rescue, suppression, and salvage, and even less adequate to describe a hazardous materials incident or a mass casualty incident. Additional documentation will be required to cover these and other incidents of special interest adequately.

### 9-3 Type of Situation Found.

**9-3.1** This data element is used to describe the most serious situation that occurred whether or not the situation was present when the first emergency resources arrived. The same classifications can also be used to record multiple situations found at the same incident.

The type of situation found can affect which other data items apply to make a complete report of the important events that occurred and other pertinent information.

**9-3.2** The following numbers should be used to classify data about the type of situation found at the scene.

1. Fire, Explosion.  
Included are fires out-on-arrival and combustion explosions with no after-fire.  
Excluded are overheating or excessive heat (25), unauthorized burning (56), and controlled burning (63).
11. Structure fire (not included in 12 or 13 below).  
Included are fires inside a structure whether or not there was damage to the structure itself.
12. Fire in mobile property when used as a structure.  
Included are mobile homes, motor homes, camping trailers, and other mobile property when not in transit and used as a structure for residential, commercial, or other purposes.  
(Use Section 4-8 to classify the type of mobile property and Section 4-7 to classify how it is used.)
13. Fire in mobile property while inside a structure.  
Use Section 4-8 to classify the type of mobile property and Section 4-7 to classify the specific use of the area where the mobile property was located when the fire occurred.
14. Fire in mobile property outside a structure.  
Included are mobile properties normally used as structures, while in transit and vehicles.
15. Fire in natural vegetation: trees, brush, grass.
16. Refuse fire outside.  
Included are all hostile fires outside a structure or vehicle (not included above) where the material burning has negligible value and fires in mechanically moved waste or rubbish containers outside a structure.
17. Other outside fire (not included in 15 above or 18 below).  
Included are all hostile fires outside a structure or vehicle where the material burning has definable value.
18. Fire in cultivated vegetation: standing crops, orchards, vines.
19. Fire, Explosion not classified above.
10. Fire, Explosion; insufficient information to classify further.
2. Overpressure Rupture, Explosion, Overheat (no ensuing fire).
  21. Steam rupture.  
Excluded is steam mistaken for smoke when the steam is being released from a normal vent or relief valve (65).
  22. Air, gas rupture.
  23. Process vessel explosion (no fire).
  24. Munitions explosion (no fire).  
Included are bombs, dynamite, and similar explosives.
  25. Excessive heat, overheating scorch burns with no ignition.
  29. Overpressure Rupture, Explosion, Overheat not classified above.
  20. Overpressure Rupture, Explosion, Overheat; insufficient information available to classify further.
3. Rescue, Emergency Medical Call.
  31. Emergency medical assist.  
Included are incidents where assistance is provided to another group or agency that has primary emergency medical service responsibility.
  32. Emergency medical call.  
Included are checking for injuries, treatment for shock, and the like.
  33. Lock-in.
  34. Person(s) lost.
  35. People trapped, caught, buried.  
Included are people trapped in elevators, entangled in vehicle wreckage, and hanging from a cliff or building.
  36. Drowning, potential drowning.  
Included are persons stranded on ice.
  37. Electrocution.
  39. Rescue, Emergency Medical Call not classified above.
  30. Rescue, Emergency Medical Call; insufficient information available to classify further.
4. Hazardous Condition, Standby.  
Included are potential accidents.
  41. Flammable gas or liquid condition.  
Included are gas leaks and gasoline or other flammable liquid spills.
  42. Toxic condition.  
Included are toxic chemical spills and reaction of chemicals.
  43. Radioactive condition.
  44. Electrical arcing, shorted electrical equipment.  
Included are power lines down and incidents where disconnection of the electrical energy clears the emergency.  
Excluded are emergencies where there is a sustained fire after the electrical energy has been disconnected (division 1.)
  45. Oil burner delayed ignition (no fire outside firebox). If fire is outside firebox, classify in division 1 (fire).
  46. Vehicle accident, potential accident.  
Included are incidents where there is a perceived problem with a vehicle (automobile, airplane, train, ship, etc.).
  47. Explosive present.
  48. Attempted burning, illegal action.  
Included are situations where incendiary devices fail to function.
  49. Hazardous Condition, Standby not classified above.
  40. Hazardous Condition, Standby; insufficient information available to classify further.
5. Service Call.
  51. Person in distress.  
Included are persons locked out, needing a ring removed, needing assistance in returning to bed.
  52. Water problem.
  53. Smoke, odor problem.  
Included are actual smoke conditions regardless of its source.  
Excluded are smoke conditions from a hostile fire (division 1).
  54. Animal problem.
  55. Public service assistance.  
Included is police assistance.
  56. Unauthorized burning.  
Included are fires that are under control and not endangering property.  
Excluded are fires where burning is authorized and under control (63).
  57. Cover assignment, standby at fire station, move-up.
  59. Service Call not classified above.

- 50. Service Call; insufficient information available to classify further.

#### 6. Good Intent Call.

- 61. Incident cleared prior to arrival.  
Included are incidents where apparatus is placed in service prior to its arrival on the scene.  
Excluded are fires out on arrival (division 1).
- 62. Wrong location.
- 63. Controlled burning.  
Included are fires where burning is authorized and under control.
- 64. Vicinity alarm.  
Included are separate locations reported for an actual fire and multiple boxes pulled for one fire.
- 65. Steam, other gas mistaken for smoke.
- 66. EMS call where injured parties have been transported or left scene prior to arrival.
- 67. Hazardous materials release investigation with no hazardous condition found.
- 69. Good Intent Call not classified above.
- 60. Good Intent Call; insufficient information available to classify further.

#### 7. False Call.

- 71. Malicious, mischievous false call.
- 72. Bomb scare, no bomb.
- 73. System malfunction.
- 74. Unintentional.  
Included are tripping an interior device accidentally, running a drain test without knowledge of the alarm connection, and the like.
- 79. False Call not classified above.
- 70. False Call; insufficient information available to classify further.

#### 8. Natural Condition.

When response is to another specific type of incident during these conditions, classify the type of incident more specifically using the classifications above.

- 81. Earthquake.
- 82. Flood.
- 83. Wind storm.  
Included are tornado, hurricane, cyclone, etc.
- 84. Lightning strike.
- 89. Natural Condition not classified above.
- 80. Natural Condition; insufficient information available to classify further.

#### 9. Other Type of Incident.

- 91. Citizen's complaint.  
Included are reports of code or ordinance violation.
- 99. Type of Situation Found not classified above.
- 00. Type of Situation Found undetermined or not reported.

### 9-4 Condition of Fire on Arrival.

**9-4.1** This data element is used to describe the apparent scope of the fire at the time emergency forces arrive at the fire site. This element can assist in assessments of response time and effectiveness of emergency forces.

**9-4.2** The following numbers should be used to classify data about the condition of the fire upon arrival of the emergency forces.

- 1. Emergency cleared prior to arrival.
- 2. Fire with no evidence visible from street.
- 3. Fire with smoke showing only.  
Included are smoldering wildland fires.
- 4. Flames showing from small area.  
Included are flames showing on one story or less, flames showing from part of a vehicle, and creeping fires in wildland.
- 5. Flames showing from large area.  
Included are flames showing on more than one story and running, spotting wildfire.
- 6. Fully involved.  
Included are total involvement of a structure or vehicle and crowning wildfires.
- 7. Exposure involved.  
Included are multiple structures/vehicles involved and wildfires that also involve structures or vehicles.
- 9. Condition of Fire on Arrival not classified above.
- 0. Condition of Fire on Arrival undetermined or not reported.

### 9-5 Type of Action Taken.

**9-5.1** This data element is used to describe the type of action taken by emergency response units at the scene.

**9-5.2** The following numbers should be used to classify data about the type of action taken by the responding emergency forces. Where more than one action is applicable and only one action is being recorded, use the classification number that is highest on the list (lowest numerical value).

- 11. Rescue, ventilation, extinguishment, salvage, and overhaul.
- 12. Ventilation, extinguishment, salvage, and overhaul.
- 13. Extinguishment, salvage, and overhaul.
- 14. Salvage and overhaul.
- 15. Extinguishment.
- 16. Ventilation.  
Included are smoke or toxic gas removal.
- 17. Establish fire lines around wildfire perimeter.  
Included are clearing firebreaks using direct, indirect, and burnout tactics as appropriate.
- 31. Rescue, remove from harm.  
Included is providing emergency medical service to those rescued if needed.
- 32. Extrication, disentanglement.  
Included is providing emergency medical service to those extricated if needed.
- 33. Provide emergency medical service.
- 34. Provide manpower.  
Included are assisting police or rescue/ambulance units.
- 35. Search.
- 36. Transport.
- 37. Forcible entry.
- 41. Remove hazard.  
Included are neutralizing a hazardous condition and containing a spill.  
Excluded is decontamination of occupancy/area (47).
- 42. Identification/analysis of hazardous materials.
- 43. Evacuation.
- 44. Establish safe area.



45. Monitor/sample hazardous materials.
46. Decontamination of persons/equipment.
47. Decontamination of occupancy/area.  
Included is cleanup of hazardous materials.
51. Assist invalids.
52. Fill in, move up.
53. Standby, fire watch.
54. Water removal.
55. Restore sprinkler or protection system.
56. Restore alarm system.
57. Assist animal.  
Included are capturing, removing, rescuing animals.
61. Crowd control.
62. Traffic control.
63. Notify other agencies including mutual/automatic aid, state emergency agencies, etc.
64. Provide public and media information.
71. Investigate.
72. Responding unit(s) canceled enroute.
73. Shut down system.
81. Restore city services.  
Included are restoring water supplies and public fire alarm systems.
82. Secure property.
91. Code enforcement.
92. Refer to proper authority.
93. Incident command.
97. Hazardous materials response, materials determined to be nonhazardous.
98. No action taken.
99. Type of Action Taken not classified above.
00. Type of Action Taken undetermined or not reported.

## 9-6 Method of Extinguishment.

**9-6.1** This data element is used to describe the mechanism by which the fire was finally extinguished.

**9-6.2** The following numbers should be used to classify data about the method by which the fire was extinguished.

1. Self-extinguished.
2. Makeshift aids.  
Included are garden hoses, sand, rakes, shovels, baking soda, and the like.
3. Portable extinguisher.
4. Automatic extinguishing system.
5. Water carried on apparatus initially assigned to the incident (first alarm units).
6. Water from hydrant, draft, or standpipe.
7. Water from tanker shuttle regardless of where tankers are refilled.
8. Ground crews with equipment and/or air support.
9. Method of Extinguishment not classified above.
0. Method of Extinguishment undetermined or not reported.

## 9-7 Fire Service Resources.

**9-7.1** This data element is used to classify the types of emergency response resources used by fire and emergency medical providers. The data element can also be used to classify specific resources within a department or among cooperators. A fire department may find it useful to collect the number of

persons responding with each unit or assigned to work with the unit once it is at the incident. Data on the use of resources to control and handle incidents is important for planning the future allocation of resources and justifying budgets.

**9-7.2** When it is desired to record the type of fire department resource available or used, the following numbers should be used.

1. Fire Suppression Apparatus.  
Included are ground vehicles whose primary purpose is to support the direct suppression of fires.
11. Engine.  
Included are apparatus with a pump capable of developing fire streams, a water tank, and fire hose.
12. Aerial apparatus.  
Included are fire apparatus with an aerial ladder or elevating platform and without a pump or with a pump rated at less than 1000 gpm.  
Excluded are aerial apparatus with a pump rated at 1000 gpm or greater (13).
13. Combination Engine/Aerial Apparatus.  
Included are apparatus with an aerial ladder or elevating platform and a pump rated at 1000 gpm or more.  
Excluded are aerial apparatus with a rated pumping capacity of less than 1000 gpm (12).
14. Special Extinguishing Agent Apparatus.  
Included are apparatus whose primary function is to deliver foam or other special agents rather than water for fire attack.  
Excluded are airport rescue fire-fighting vehicles (15) and engines that only incidentally use special agents (11).
15. Aircraft Rescue Fire Fighting (ARFF) Apparatus.  
Included are heavy and light airport crash rescue apparatus designed for quick response to aircraft or similar emergency situations.
19. Fire Suppression Apparatus not classified above.
2. Tactical Equipment.
21. Dozer.  
Included are any tracked vehicles with a blade for exposing mineral soil.
22. Tractor-plow.  
Included are any vehicle with a plow for exposing mineral soil except a dozer (21).
23. Construction equipment.  
Included are skidloaders, forklifts, small tractors, and similar equipment.  
Excluded are dozers (21) and tractor-plows (22).
24. Water Tender or Tanker.  
Included are apparatus that function to transport water to a fire scene for application by other equipment.  
Excluded are apparatus with pumping capacity for direct application of the water from the tank (11).
29. Tactical Equipment not classified above.
3. Aircraft.
31. Air tanker.  
Included are any fixed wing aircraft certified by the Federal Aviation Administration as capable of the transport and delivery of water or fire retardant solutions.
32. Helitanker.  
Included are any helicopter equipped with a fixed tank or a suspended bucket-type container that is used for aerial delivery of water or fire retardant solutions.
33. Helicopter for transport.
39. Aircraft not classified above.

4. Marine Vessels.
  41. Fire boat.  
Included are water-borne vessels with pumping capability.
  49. Marine Vessels not classified above.  
Included are water-borne air-cushion vessels designed to operate over water, rescue boats, work boats and the like that have no pumping capability.
5. Support Equipment.
  51. Suppression support apparatus.  
Included are breathing apparatus support units, power generation and lighting units.
  52. Command support apparatus.  
Included are mobile command posts and communication vehicles.
  53. Special extinguishing agent resupply apparatus.
  54. Equipment transport vehicle.
  55. Passenger transport vehicle.
  56. Fuel or maintenance tender.  
Included are fuel and maintenance tenders whether for ground equipment or aircraft.
  57. Logistical support units.  
Included are food service units, shower units, and sanitation units.
  59. Support equipment not classified above.
6. Medical Care or Rescue Apparatus.
  61. Rescue unit.
  62. Ambulance.
  63. Paramedic unit.
  69. Medical Care or Rescue Apparatus not classified above.
9. Other Resources.
  91. Fire investigation unit.
  92. Explosives or ordnance disposal unit (Bomb squad).
  93. Hazardous materials (Hazmat) unit.
  94. Organized hand crew.
  99. Fire Service Resource Type not classified above.
  00. Fire Service Resource Type undetermined or unreported.

## 9-8 Outside Fire Service Assistance.

**9-8.1** This data element measures the conditions under which fire departments exchange assistance with each other.

Mutual aid is assistance provided under a written agreement that establishes general guidelines and procedures for providing and receiving assistance between fire departments.

Automatic aid is predetermined and preauthorized two-way assistance rendered between fire departments under the terms of a written agreement.

Initial action is automatic aid on the initial alarm to areas adjacent to the boundaries between fire departments.

**9-8.2** The following numbers should be used to classify data about outside fire service assistance rendered at the incident.

1. Mutual aid received from another fire department in accordance with a written agreement.
2. Automatic aid or initial action received from another fire department in accordance with a written agreement.
3. Aid received from another fire department — no written agreement.
4. Mutual aid provided to another fire department in accordance with a written agreement.

5. Automatic aid or initial action provided to another fire department in accordance with a written agreement.
6. Aid provided to another department or jurisdiction — no written agreement.
7. Contractual fire protection services provided in accordance with contract — not mutual or automatic aid.
8. No fire service assistance received or provided.
9. Outside Fire Services Assistance not classified above.
0. Outside Fire Service Assistance undetermined or not reported.

## Chapter 10 Demographic Data

**10-1 Purpose and Application.** The purpose of this chapter is to provide data elements that can be used to describe the characteristics of persons who were involved with the incident being described.

The major use of these data elements will be to describe persons who have been injured during an incident, including both civilians and fire fighters. However, they may also be used to describe the characteristics of:

- (a) Other persons who were associated with the start of an incident, such as incendiaries, persons who have negligently or recklessly started fires, or children playing with matches or lighters;
- (b) Uninjured persons at the scene of an incident such as persons who escaped.

**10-2 Limitations.** When these data elements are used to describe the characteristics of groups of persons other than casualties, it will be necessary to establish separate data sets for each of the categories of persons for whom data are sought.

**10-3 Discussion.** Fire casualty data describe the characteristics of persons injured in fires started by children playing, but they do not identify the characteristics of the children who started the fires. Establishing a database for fire starters will permit retrieval of these data. It will also identify the characteristics of non-juvenile fire starters, such as suspected arsonists or persons who have started fires through negligence or reckless behavior.

A comparison of the characteristics of persons at the scene of an incident who were not injured with those who were injured may also be of interest. For example, the age distributions of the two groups may be substantially different. Establishing a database for uninjured persons at the fire scene will permit such a comparison.

### 10-4 Age/Date of Birth.

**10-4.1** A person's age is a significant factor in determining the ability of that person to understand the consequences of his/her action and to react appropriately. When available, date of birth provides the most accurate way of specifying age.

**10-4.2** Record age using month, day, and year in that order. If age is recorded as well, use '00' to denote persons under 1 year of age.

**10-5 Sex.** The following letters should be used to classify data about the sex of a person being described.

1. Male (M).
2. Female (F).
0. Sex undetermined or not reported (U).

**10-6 Race and Origin.** Collecting information on race and origin assists in identifying groups that may have high fire loss or injury experience.

**10-6.1** The following numbers should be used to classify data about the race of a person being described.

NOTE: Spanish/Hispanic is not a race according to the U.S. Bureau of the Census. Refer to National Origin for Spanish/Hispanic.

1. White.
2. Black.
3. American Indian, Eskimo, Aleut.
4. Asian.  
Included are Japanese, Chinese, Filipino, Korean, Asian Indian, Vietnamese, Hawaiian, Samoan, Guamanian.
9. Race other than classified above.
0. Race undetermined or not reported.

**10-6.2 National Origin.** The following numbers should be used to classify data about the national origin of a person being described.

1. Hispanic origin.  
Included are Mexican, Puerto Rican, Cuban.
9. National Origin not classified above.
0. National Origin undetermined or not reported.

## **10-7 Affiliation.**

**10-7.1** This data element is used to describe the occupational status of the person as it relates to the incident.

**10-7.2** The following numbers should be used to classify data about the affiliation of the person being described. If a fire fighter was injured while at home off duty, classify affiliation as civilian.

1. Fire service personnel.  
Included are military fire service personnel.
2. Emergency medical service personnel.
3. Law enforcement.  
Included are military police.
4. Other emergency personnel.  
Included are utility company employees and persons from other city departments working at the scene.  
Excluded are EMS personnel (2) and police (3).
5. Civilian.
6. Military.  
Excluded are military fire service personnel (1) and military police (3).
9. Affiliation not classified above.
0. Affiliation undetermined or not reported.

## **10-8 Relationships.**

**10-8.1** This data element is used to establish the identity of individuals or entities that are included in the report of an incident.

**10-8.2** The following numbers should be used to classify data about relationship of a person being described to the incident or casualty.

1. Direct Relative.
  11. Husband.
  12. Wife.
  13. Father or grandfather.
  14. Mother or grandmother.
  15. Son or grandson.
  16. Daughter or granddaughter.
  17. Brother.
  18. Sister.
  19. Other Direct Relative not classified above.
  10. Direct Relative; insufficient information available to classify further.
2. Indirect or Casual Relationship.
  21. Aunt, uncle, cousin.
  22. In-laws.
  23. Roommate.
  24. Friend.
  25. Acquaintance.
  26. Neighbor.
  29. Indirect or Casual Relationship not classified above.
  20. Indirect or Casual Relationship; insufficient information available to classify further.
3. Business Relationship.
  31. Owner.
  32. Occupant or tenant.
  33. Employer.
  34. Employee.
  35. Provider or caretaker.
  36. Patient.
  37. Vendor.
  38. Guest or visitor.
  39. Business Relationship not classified above.
  30. Business Relationship; insufficient information available to classify further.
4. Financial Relationship.
  41. Insurance company.
  42. Adjuster.
  43. Additional insurer.
  44. Mortgagee.
  45. Payee.
  46. Agent.
  49. Financial Relationship not classified above.
  40. Financial Relationship; insufficient information available to classify further.
5. Government Relationship.
  51. Fire department personnel.
  52. Police department personnel.
  53. Emergency medical service provider.
  54. Public works employee.
  55. State employee.
  56. Arrestee.
  57. Suspect.

- 58. Federal employee.
- 59. Government Relationship not classified above.
- 50. Government Relationship; insufficient information available to classify further.
- 6. Involvement.
  - 61. Victim.
  - 62. Casualty.
  - 63. Suspected casualty.
  - 64. Trespasser.
  - 65. Witness.
  - 66. Passerby.
  - 67. Reporting party.
  - 69. Involvement not classified above.
  - 60. Involvement; insufficient information available to classify further.
- 7. Mobile Equipment.
  - 71. Driver.
  - 72. Passenger.
  - 73. Shipper.
  - 74. Spiller.
  - 75. Transporter.
  - 79. Mobile Equipment not classified above.
  - 70. Mobile Equipment; insufficient information available to classify further.
- 9. Other Relationship.
  - 99. Relationship not classified above.
  - 00. Relationship undetermined or not reported.

### 10-9 Condition of Person Prior to Incident.

**10-9.1** This data element is used to measure the condition or apparent condition of the person before the incident. This is the normal condition that the person would have been in but for this incident.

**10-9.2** The following numbers should be used to classify data about the condition of a person. If more than one condition applies and only one is to be recorded, classify the first that appears on the list.

- 1. Asleep, no known impairment.
- 2. Incapable of self-preservation.
- 3. Impaired by illegal drugs, alcohol.
- 4. Under restraint.
- 5. Too young to act.
- 6. Deaf, mute, blind.
- 7. Capable of self-preservation but requires assistance from others to evacuate.
- 8. Awake, unimpaired.
- 9. Condition of Person Prior to Incident not classified above.
- 0. Condition of Person Prior to Incident undetermined or not reported.

### 10-10 Familiarity with the Incident Area.

**10-10.1** This data element is used to identify the familiarity of the person with the incident area.

**10-10.2** The following numbers should be used to classify data about the reason for the person's presence at the incident location.

- 1. Short-term visitor.  
Less than 1 day of association with the property.
- 2. Long-term visitor.  
One day or greater but less than 1 week association with the property.  
Classify visitors over 1 week as seasonal residents.
- 3. Short-term seasonal resident, employee.  
1 week to 1 month association with the property.
- 4. Long-term seasonal resident, employee.  
1 month or greater association with the property.
- 5. New permanent resident, employee, student.  
Less than 1 month association with the property.
- 6. Established permanent resident, employee, student.  
1 month or greater association with the property.
- 9. Familiarity with Incident Area not classified above.
- 0. Familiarity with Incident Area undetermined or not reported.

### 10-11 Location of Person with Relation to Point of Origin.

**10-11.1** This data element can be used to designate the location of the person either at the onset of the incident or, in the case of an injury, the location at the time of injury or incapacitation. For example, a person may have been in the room of origin at the onset of the incident but injured or incapacitated in a location outside the room of origin. The data element can be used to assess the potential involvement of a person with the ignition. It can also be used to assess the relationship of an injured person to proximity, material burned, structural integrity, egress, and functions in fire fighting.

**10-11.2** The following numbers should be used to classify data about the location of a person with relation to the point of origin.

- 1. Person intimately involved with ignition.  
Included are ignition of clothing on a person and ignition of bedding or furniture on which a person is sitting or lying.
- 2. Person in the room or space of fire origin.  
Included are vehicle compartments, porches, tents, and playhouses within 50 ft (15 m) of outside fire.
- 3. Person in same fire division compartment.
- 4. Person on same floor as origin of fire.
- 5. Person in same building as origin of fire.
- 6. Person on property of fire origin.  
Included are persons outside of a building fire, outside a vehicle, or over 50 ft (15 m) from an outside fire.
- 7. Person off property of fire origin at time at ignition.  
Included are fire fighters and emergency service personnel.
- 9. Location of Person with Relation to Point of Origin not classified above.
- 0. Location of Person with Relation to Point of Origin undetermined or not reported.

### 10-12 Factors Preventing Escape.

**10-12.1** This data element is used to describe the most significant factor(s) or condition(s) preventing the person's escape.

**10-12.2** The following numbers should be used to classify data about factors that prevented a person's escape. If more than one condition applies and only one is to be recorded, the most immediate one that was not overcome should be recorded.

For example, if a person was both incapacitated and a door was locked, classify the “incapacitated” if it was the first obstacle that was not overcome. However, if the person moved slowly but finally got to the locked door but was not able to open it, classify the “locked door” since that was the obstacle not overcome. If more than one condition is classified, rank them in order of importance.

1. No time to escape; explosion, or fire progressed too rapidly.
2. Fire between person and exit.
3. Locked doors, windows.
4. Bars, grates, grills.
5. Clothing on person burning.
6. Moved too slowly or inappropriately.  
Included are failures to follow correct (available) escape procedures.
7. Person incapacitated prior to ignition.
8. No factors or conditions prevented escape or not a factor.
9. Factors Preventing Escape not classified above.
0. Factors Preventing Escape undetermined or not reported.

### 10-13 Mobility of Occupant.

**10-13.1** Mobility of occupant identifies if the occupants in the area are mobile, non-mobile, or impaired. Mobile is defined as having the ability to move 150 ft (45 m) in 90 seconds unaided. Children under 5 years old, invalids, persons confined to a specific small area and the like are generally non-mobile. Impaired persons include those under the influence of alcohol or drugs whose ability to act is impaired.

**10-13.2** The following numbers should be used to classify the condition of the occupants in a property.

1. All mobile with at least one responsible person awake.
2. All mobile — all asleep.
3. Mobile and non-mobile or impaired, with at least one responsible mobile person awake.
4. Mobile and non-mobile or impaired, all asleep.
5. All non-mobile or impaired.
6. Dead before ignition.
8. No occupants.
9. Mobility of Occupant not classified above.
0. Mobility of Occupant undetermined or not reported.

## Chapter 11 Property And Human Loss

**11-1 Purpose and Application.** This chapter presents a means of summarizing the losses that occur as a result of a fire. Losses are measured as the physical damage from the fire to the property, injuries to persons, loss of use of facilities, and financial loss.

These data elements can be used to measure direct and indirect property loss, casualties and fatalities to civilians, fire service personnel and other emergency personnel.

**11-2 Limitations.** The data elements in this chapter provide summaries of the property and human loss only. Details of these losses should be defined with data elements in other chapters.

**11-3 Summary Data.** The following data elements summarize the property and human loss resulting from an incident.

**11-3.1 Number of Fatalities.** It is recommended that the number of fire fighter fatalities be recorded separately from the number of civilian fatalities. Persons who are not fire fighters but who are at the scene in an emergency capacity (police, public works employees, utility company employees, etc.) should be counted in the civilian fatality count.

**11-3.2 Number of Injuries.** It is recommended that the number of fire fighter injuries be recorded separately from the number of civilian injuries. Persons who are not fire fighters but who are at the scene in an emergency capacity (police, public works employees, utility company employees, etc.) should be counted in the civilian injury count.

**11-3.3 Number of Persons Assisted.** The number of persons assisted in leaving the building by the action of the fire department is an indication of the work load on arrival. This data can be useful in establishing resource dispatch policies as well as developing fire ground operations plans. Assisting persons can include notifying people of a fire in the building and directing them to an exit or physically walking with them to a point clear of the danger. It does not include physically having to remove the person (*see 11-3.4*).

**11-3.4 Number of Persons Rescued.** This data element records the number of persons who had to be physically removed from the danger area by fire fighters whether by carrying, wheeling a bed or chair the person is confined to, or assisting the persons by providing an avenue not normally available (e.g., a ladder or a breached wall). Like the number of persons assisted, this is an indication of the work load on arrival. This data can be useful in establishing resource dispatch policies as well as developing fire ground operations plans.

**11-3.5 Number of Persons Made Temporarily Homeless.** The number of persons who could not reside in their building the night after the fire.

**11-3.6 Number of Businesses Made Unusable.** The number of businesses that could not operate over 60 percent of their facility the first working day following the fire.

**11-3.7 Monetary Loss.** This data element measures the monetary loss associated with an incident. When measuring direct fire loss, the loss should be calculated for replacement on a like kind and quality basis. Direct fire loss includes loss to structures, contents, machinery and equipment, vehicles, and vegetation.

**11-3.8 Acres Burned.** This data element is used to quantify the area in acres within the fire line perimeter. The data element is primarily used for wildland fires but can aid other fire departments when fires cover relatively large areas in urban and suburban areas. Area should generally be recorded to the nearest tenth of an acre for fires less than one acre in size and in whole acres for fires larger than one acre.

### 11-4 Extent of Damage.

**11-4.1** This data element is used to describe the extent of damage from fire and the effects of the fire and its suppression. The damage may be from actual flame impingement, smoke and heat-scorching, water and other fire extinguishing agent, or physical damage from fire control activities. It is recommended that reporting systems allow for the separate reporting of flame damage, smoke and heat-scorch damage, water and other fire extinguishing agent damage, and physical damage from fire control activities as four separate data ele-

ments. "Browned" paper and similar areas scorched by heat but not attacked by flame should be reported as smoke or heat scorch damage, not fire damage.

**11-4.2** The classification that defines the largest area of the structure damaged should be used.

1. Confined to the object of origin.
2. Confined to part of room or area of origin.
3. Confined to room of origin.
4. Confined to fire division compartment of origin.
5. Confined to story of origin.
6. Confined to structure of origin.
7. Extended beyond structure of origin.
8. No damage of this type.
0. Extent of Damage undetermined or not reported.

## Chapter 12 Casualty Data

**12-1 Purpose and Application.** This chapter provides data elements and classifications that can be used to identify information about a person injured or fire service casualties. All injuries or deaths that result from a fire incident or whenever a fire fighter is injured should be reported.

The use of the data elements or combinations of data elements in this chapter can identify key factors about injuries to both civilians and fire-fighting personnel.

This data in the case of fire-fighting personnel can be used to identify the need for additional training, change the departments standard operating procedures, and track information about protective equipment used, and any failures of such equipment.

Data on civilian injuries can aid in the understanding of what population groups are being affected most by fires, why people are injured, and the extent of various types of injuries.

**12-2 Limitations.** There are two situations that raise concern when reporting injuries and deaths. The first is the situation of self-annihilation (suicide) and homicides by fire. These should be treated as fire deaths. The second is asphyxiation or illness from a fire that is otherwise a non-hostile fire. These are not fire deaths or injuries.

### 12-3 Case Severity.

**12-3.1** This data element is used to describe the overall severity or seriousness of the injury or illness.

**12-3.2** The following numbers should be used to classify data about the severity of the injuries to a person.

1. Minor — The patient is not in danger of death or permanent disability. Immediate medical care is not necessary.
2. Moderate — There is little danger of death or permanent disability. Quick medical care is advisable. This category includes injuries such as fractures or lacerations requiring sutures.
3. Severe — The situation is potentially life threatening if the condition remains uncontrolled. Immediate medical care is necessary even though body processes may still be functioning and vital signs may be normal.

Example: When the ambulance arrived, the patient's vital signs were close to normal; however, his respiratory rate was high, and he suffered from chest pain and shortness of breath. The patient's cardiac symptoms indicated a case that was potentially life threatening.

4. Life Threat — Death is imminent; body processes and vital signs are not normal. Immediate medical care is necessary. This category includes cases such as severe hemorrhaging, severe multiple trauma, and multiple internal injuries.
5. D.O.A. — Dead on arrival at the scene.
6. Died subsequent to arrival.
8. Case Severity not applicable.
0. Case Severity undetermined or not reported.

### 12-4 Apparent Symptom.

**12-4.1** This data element is used to identify the preliminary condition(s) chiefly responsible for the patient's need for emergency medical services. It is anticipated that this information will be determined by the emergency medical technician or other health provider who is primarily responsible for treating the patient during the prehospital emergency phase.

**12-4.2\*** The following numbers should be used to classify data about the apparent symptom or symptoms if the reporting system allows reporting of more than one.

01. Abrasion.
02. Amputation.
03. Asphyxiation.  
Included is smoke inhalation.
04. Avulsion (of eye).
05. Burn: chemical.
06. Burn: electric.
07. Burn: thermal.
08. Burn: scald.
09. Cancer.
10. Cardiac arrest.
11. Cardiac symptoms.
12. Chills.
13. Contusion or bruise-minor trauma.
14. Convulsion or seizure unspecified.  
Included is petit mal.
15. Convulsions or seizure systemic.  
Included is grand mal.
16. Crushing.
17. Dehydration.
18. Diabetic coma.
19. Diabetic shock.
20. Difficulty breathing or shortness of breath.
21. Dislocation.
22. Disorientation.
23. Dizziness or fainting-weakness.
24. Drowning.
25. Drug overdose.
26. Fever.
27. Foreign body, obstruction.
28. Fracture: closed.
29. Fracture: open.
30. Frostbite.
31. Hemorrhaging, bleeding.
32. Hypersensitivity.  
Included is allergic reaction to medicines.
33. Impairment similar to that caused by alcohol.
34. Internal trauma (closed blunt).
35. Laceration, cut.
36. Mental disorder.

- 37. Nausea.
- 38. Obstetrics — delivery.
- 39. Obstetrics — miscarriage.
- 40. Pain only.
- 41. Paralysis.
- 42. Paresthesia, numbness, tingling.
- 43. Pneumonia.
- 44. Puncture wound (penetrating).  
Included are stab wounds.
- 45. Poison not listed elsewhere.
- 46. Projectile wound-high velocity.
- 47. Respiratory arrest.
- 48. Shock: anaphylactic.
- 49. Shock: electrical.
- 50. Sickness.
- 51. Sprain, strain.
- 52. Stroke (C.V.A.).
- 53. Swelling.
- 54. Unconscious.
- 55. Vomiting.
- 59. Other long-term illness.
- 98. No apparent symptom.
- 99. Apparent Symptom not classified above.
- 00. Apparent Symptom undetermined or not reported.

## 12-5 Part of Body.

**12-5.1** This data element describes the part of the body affected by the apparent symptoms. It is recommended that the two data elements (apparent symptom and part of body) be reported as a pair.

**12-5.2** The following numbers should be used to classify data about the part of the body where the symptoms are apparent.

- 1. Head Area.
  - 11. Ear.
  - 12. Eye.
  - 13. Face.
  - 14. Mouth — lips.
  - 15. Mouth — interior.
  - 16. Nose.
  - 17. Nose lining.
  - 18. Teeth.
  - 19. Head Area not classified above.
  - 10. Head Area; insufficient information to classify further.
- 2. Trunk.
  - 21. Neck.
  - 22. Shoulder.
  - 23. Back-upper, surface only — see 61 for spine.
  - 24. Back-lower, surface only — see 61 for spine.
  - 25. Chest.
  - 26. Abdomen.
  - 27. Buttocks.
  - 28. Groin.
  - 29. Trunk not classified above.
  - 20. Trunk; insufficient information to classify further.
- 3. Arm or Hand.
  - 31. Arm — upper not including elbow (33) or shoulder (22).

- 32. Arm — lower not including elbow (33) or wrist (34).
- 33. Elbow.
- 34. Wrist.
- 35. Hand.
- 36. Fingers.
- 37. Thumb.
- 39. Arm or Hand not classified above.
- 30. Arm or Hand; insufficient information to classify further.

- 4. Leg or Foot.
  - 41. Leg — upper.
  - 42. Leg — lower.
  - 43. Knee.
  - 44. Ankle.
  - 45. Foot.
  - 46. Toes.
  - 49. Leg or Foot not classified above.
  - 40. Leg or Foot; insufficient information to classify further.

- 5. Internal.
  - 51. Throat.
  - 52. Trachea.
  - 53. Lungs.
  - 54. Heart.
  - 55. Stomach.
  - 56. Intestinal tract.
  - 57. Genito-urinary.
  - 58. Internal organ not otherwise specified.
  - 59. Internal not classified above.
  - 50. Internal; insufficient information to classify further.

- 6. Miscellaneous Parts of Body.
  - 61. Spine.
  - 62. Pelvis.
  - 63. Hip.

- 7. Multiple Parts of Body.
  - 71. Multiple head parts.
  - 72. Multiple trunk parts.
  - 73. Multiple arm and hand parts.
  - 74. Multiple leg and foot parts.
  - 75. Multiple internal parts.
  - 76. Multiple body parts — upper.
  - 77. Multiple body parts — lower.
  - 78. Multiple body parts — whole body.

- 9. Other.
  - 98. Part of Body not applicable.
  - 99. Part of Body not classified above.
  - 00. Part of Body undetermined or not reported.

## 12-6 Casualty Type by Situation Found.

**12-6.1** This data element is used to describe the situation or activity at the scene that caused the injuries.

**12-6.2** The following numbers should be used to classify data about the situation that caused injuries.

- 1. Vehicle Related.
  - Excluded are pedestrians struck by vehicle (27).

11. Aviation accident.
12. Boat accident.
13. Train accident.
14. Motor vehicle accident.
15. Motorcycle, moped accident.  
Excluded are two-wheel powered vehicles designed exclusively for use off the road (16).
16. Other motorized vehicle accident. Included are snowmobiles, all-terrain vehicles, two-wheel powered vehicles designed exclusively for use off the road, etc.
17. Bicycle accident.
18. Nonmotorized vehicle accident.  
Included are accidents involving skateboards, tricycles, sleds, etc. Excluded are bicycle accidents (17).
19. Vehicle Related not classified above.
10. Vehicle Related; insufficient information available to classify further.
2. Natural Activity Related.
  21. Exposure to weather.  
Included are frostbite, heat exhaustion, etc.
  22. Insect sting.
  23. Snake bite.
  24. Animal bite.
  25. Sports accident, supervised.
  26. Sports accident, unsupervised.
  27. Pedestrian struck by vehicle.
  29. Natural Activity Related not classified above.
  20. Natural Activity Related; insufficient information available to classify further.
3. Fire, Explosive, Fireworks Related.  
Includes smoke or gas related to fire.
  31. Structure fire injury.
  32. Vehicle fire injury.
  33. Grass, brush, woodlands fire injury.
  34. Flammable gas, flammable liquid, or chemical fire injury outside.
  35. Outside fire injury (not included in 33 or 34 above).
  36. Explosives injury.
  37. Fireworks injury.
  39. Fire, Explosive, Fireworks Related not classified above.
  30. Fire, Explosive, Fireworks Related; insufficient information available to classify further.
4. Inflicted Injury Related.
  41. Altercation (fist fight).
  42. Physical abuse.
  43. Thermal burn not associated with hostile fire (30-39).  
Included are scalds.  
Excluded are chemical burns (62).
  44. Gunshot.
  45. Rape, sexual assault.
  46. Knifing, cutting, stabbing.
  47. Mugging.
  48. Struck by thrown or falling object.
  49. Inflicted Injury Related not classified above.
  40. Inflicted Injury Related; insufficient information available to classify further.
5. Miscellaneous Injury Related.
  51. Building collapse.
52. Cave-in.
53. Construction accident.  
Excluded are building collapse (51) and cave-in (52).
54. Hand tool mishap.  
Excluded are construction accidents (53).
55. Lawn mower mishap.
56. Power tool mishap.  
Excluded are construction accidents (53).
57. Minor slip or fall.  
Included are most household falls and other falls of 15 ft (5 m) or less.
58. Major slip or fall.  
Included are falls of greater than 15 ft (5 m).
6. Miscellaneous Injury Related (continued).
  61. Body part stuck in or caught in machinery.
  62. Hazardous materials or chemical burn.  
Excluded is inhalation of fumes from hazardous materials or chemicals (66) or exposure to same (67).
  63. Electrical shock.
  64. Motor vehicle repair accident.
  65. Radiation, exposure to.
  66. Smoke or gas inhalation (other than when related to a fire).
  67. Exposure to hazardous materials (not included in 62, 65, or 66 above).
  69. Miscellaneous Injury Related not classified above.
  60. Miscellaneous Injury Related; insufficient information available to classify further.
7. General Type Sickness Related.
  71. Cancer.
  72. Cardiac related.
  73. Disease.
  74. Mental disorder.
  75. Seizure.
  76. Sickness, general.
  77. Stroke (C.V.A.).
  78. Trouble breathing.  
Included are choking, obstructed airway.
  79. General Type Sickness Related not classified above.
  70. General Type Sickness Related; insufficient information available to classify further.
8. Other Medical Situation Related.
  81. Alcoholic overdose.
  82. Unconsciousness, stupor.
  83. Childbirth or pregnancy problem.
  84. Drowning.
  85. Drug overdose, legal drugs.  
Excluded are attempted suicide or suicide (88).
  86. Drug overdose, illegal drugs.  
Excluded are attempted suicide or suicide (88).
  88. Suicide or attempted suicide.
  89. Other Medical Situation Related not classified above.
  80. Other Medical Situation Related; insufficient information available to classify further.
9. No Casualty Found.
  91. Person seen, but not in need of medical care.  
Includes person sleeping in car or along side of road.



- 92. Patient not seen, unable to determine situation. Includes patient left scene.
- 93. Stand-by at scene or crew used at a fire incident.
- 94. Manpower assist to another EMS vehicle.
- 95. Nothing found at location given, not suspect. Includes dispatched to wrong location.
- 96. Suspected false alarm.
- 99. Casualty Type by Situation Found not classified above.
- 00. Casualty Type by Situation Found undetermined or not reported.

## 12-7 Final Disposition of Casualty.

**12-7.1** This data element identifies where the patient was taken if further treatment or observation was needed. The first location where the patient was taken should be reported regardless of where the patient may have been subsequently taken for treatment or rehabilitation.

**12-7.2** The following numbers should be used to classify data about the final disposition of the casualty.

- 1. Hospital or emergency care facility by fire service vehicle.
- 2. Hospital or emergency care facility by non-fire-service vehicle.
- 3. Hospital or emergency care facility by non-fire-service vehicle with fire service personnel attending.
- 4. Nonemergency health care facility. Includes are doctor's offices.
- 5. Morgue or funeral home.
- 6. Residence.
- 7. Station, quarters, assigned work location.
- 8. Not transported (released at scene).
- 9. Final Disposition of Casualty not classified above.
- 0. Final Disposition of Casualty undetermined or not reported.

## 12-8 Activity at Time of Injury.

**12-8.1** This data element is used to describe the activity of the person at the time they were injured.

**12-8.2** The following numbers should be used to classify data about the activity of a person at the time they were injured.

- 1. Escaping.
- 2. Rescue attempt.
- 3. Fire control attempt.
- 4. Returned to vicinity of fire (not rescue).
- 5. Cleanup, salvage, mop-up.
- 6. Asleep, no known impairment.
- 7. Unable to act.
- 8. Irrational action.
- 9. Activity at Time of Injury not classified above.
- 0. Activity at Time of Injury undetermined or not reported.

## 12-9 Regular Fire Service Work Assignment.

**12-9.1** This data element is for use with reporting fire service casualty data and describes the official assignment of the casualty. This reported assignment may not coincide with the persons activity at the time of the injury. For example, a fire fighter normally assigned to training may be injured on a fire

ground where he or she responded to assist at a major emergency. In this case the normal assignment is "training."

This data element assists in determining the needs for training, particularly when people are working outside of their regular assignments or on temporary assignments.

**12-9.2** The following numbers should be used to classify data about the regular assignment of the fire fighter.

- 1. Fire suppression.
- 2. Emergency Medical Service (EMS).
- 3. Fire prevention or inspection.
- 4. Training.
- 5. Maintenance.
- 6. Fire alarm or communications.
- 7. Administrative.
- 9. Regular Fire Service Work Assignment not classified above.
- 0. Regular Fire Service Work Assignment undetermined or not reported.

## 12-10 Physical Condition at Time of Injury.

**12-10.1** Important to understanding how and why some injuries occur is knowledge of the condition of the casualty prior to the injury.

**12-10.2** The following numbers should be used to classify data about the physical condition of a person at the time of injury.

- 1. Rested.
- 2. Fatigued.
- 3. Impaired by drugs or alcohol.
- 4. Impaired by illness.
- 9. Physical Condition at Time of Injury not classified above.
- 0. Physical Condition at Time of Injury undetermined or not reported.

## 12-11 Status of Injured Prior to Alarm at which Injury Occurred.

**12-11.1** This data element is used to determine, if possible, whether the person was awake or asleep immediately prior to the injury and whether that has a relationship to the degree of injury.

**12-11.2** The following numbers should be used to classify data about the status of the injured person prior to the alarm at which the injury occurred.

- 1. Asleep.
- 2. Awake.
- 9. Status of Injured Prior to Alarm at which Injury Occurred not classified above.
- 0. Status of Injured Prior to Alarm at which Injury Occurred undetermined or not reported.

## 12-12 Activity at Time of Fire Service Injury or Accident.

**12-12.1** This data element is used to describe the activity being performed by an injured fire fighter at the time the injury occurred. This data is useful when evaluating the effectiveness of training and safety programs.

**12-12.2** The following numbers should be used to classify data about the activity of a fire fighter at the time he or she was injured.

**1. Riding Vehicle.**

- 11. Boarding fire apparatus, emergency vehicle.
- 12. Riding fire apparatus: standing.
- 13. Riding fire apparatus: sitting.
- 14. Riding fire apparatus: position unknown.
- 15. Riding other emergency vehicle.  
Included are ambulances, boats, planes, etc.
- 16. Riding non-emergency vehicle.
- 17. Getting off fire apparatus, emergency vehicle.
- 18. Jumping from aircraft.
- 19. Riding Vehicle not classified above.
- 10. Riding Vehicle; insufficient information to classify further.

**2. Driving or Operating Apparatus.**

- 21. Driving fire apparatus.
- 22. Tillering ladder truck.
- 23. Driving other emergency vehicle.  
Included are ambulances, boats.
- 24. Flying aircraft.
- 25. Operating engine or pump.
- 26. Operating ladder truck, elevated platform.
- 27. Operating other apparatus or equipment.  
Included are power winches, stationary generators, etc.
- 29. Driving or Operating Apparatus not classified above.
- 20. Driving or Operating Apparatus; insufficient information to classify further.

**3. Extinguishing Fire or Neutralizing Incident.**

- 31. Handling charged hose lines.
- 32. Using hand extinguishers.
- 33. Operating master stream device.
- 34. Using hand tools in extinguishment activity.
- 35. Removing power lines.
- 36. Removing flammable liquids or chemicals.
- 37. Shutting off utilities, gas lines, etc.
- 39. Extinguishing Fire or Neutralizing Incident not classified.
- 30. Extinguishing Fire or Neutralizing Incident; insufficient information to classify further.

**4. Suppression Support.**

- 41. Forcible entry.
- 42. Ventilation with power tools.
- 43. Ventilation with hand tools.
- 44. Salvage.
- 45. Overhaul.
- 49. Suppression Support not classified.
- 40. Suppression Support; insufficient information to classify further.

**5. Access or Egress.**

- 51. Carrying ground ladder.
- 52. Raising ground ladder.
- 53. Lowering ground ladder.
- 54. Climbing ladder.
- 55. Scaling.
- 56. Escaping fire or hazard.

59. Access or Egress not classified.

50. Access or Egress; insufficient information to classify further.

**6. Rescue.**

- 61. Searching for fire victim.
- 62. Rescue of fire victim.
- 63. Rescue of nonfire victim.
- 64. Water rescue.
- 65. Providing emergency medical care.
- 66. Diving operations.
- 67. Extraction with power tools.
- 68. Extraction with hand tools.
- 69. Rescue not classified above.
- 60. Rescue; insufficient information to classify further.

**7. Miscellaneous Incident Scene Activity.**

- 71. Directing traffic.
- 72. Catching hydrant.
- 73. Laying hose.
- 74. Moving tools or equipment around scene.
- 75. Picking up tools, equipment, hose on scene.
- 76. Setting up lighting.  
Included are portable generator operations.
- 77. Operating portable pump.
- 79. Miscellaneous Incident Scene Activity not classified above.
- 70. Miscellaneous Incident Scene Activity; insufficient information to classify further.

**8. Station Activity.**

- 81. Moving about station, alarm sounding.
- 82. Moving about station, normal activity.
- 83. Station maintenance.
- 84. Vehicle maintenance.
- 85. Equipment maintenance.
- 86. Physical fitness activity: supervised.
- 87. Physical fitness activity: unsupervised.
- 88. Training activity or drill.
- 89. Station Activity not classified above.
- 80. Station Activity; insufficient information to classify further.

**9. Other Activity.**

- 91. Incident investigation: during incident.
- 92. Incident investigation: after incident.
- 93. Inspection activity.
- 94. Administrative work.
- 95. Communication work.
- 99. Activity at Time of Fire Service Injury or Accident not classified above.
- 00. Activity at Time of Fire Service Injury or Accident undetermined or not reported.

**12-13 Where Fire Service Injury or Accident Occurred.**

**12-13.1** This data element is used to describe the location where the fire fighter was when injured. This data element should be used in conjunction with the data element "Activity at Time of Fire Service Injury or Accident" (*see Section 12-12*) to provide a more complete description of how the injury or accident occurred.

**12-13.2** The following numbers should be used to classify data about where the fire fighter was when the injury or accident occurred.

1. En Route or Returning.
  11. En route to emergency.
  12. Returning from emergency.
  13. En route to non-emergency public assistance response.
  14. Returning from non-emergency public assistance response.
  15. En route to other non-emergency duty assignment.
  16. Returning from other non-emergency duty assignment.
  19. En Route or Returning not classified above.
  10. En Route or Returning; insufficient information to classify further.
2. At Incident Scene — Outside At or Above Grade.
  21. Outside on ground level.
  22. Outside above grade level.
  23. On structure roof.
  24. On ladder or in basket of aerial apparatus at an emergency scene.
  25. On ground ladder.
  26. On wall or ledge.
  27. On fire escape.
  28. On steep hillside.
  29. At Incident Scene — Outside At or Above Grade not classified above.
  20. At Incident Scene — Outside At or Above Grade; insufficient information to classify further.
3. At Incident Scene — Outside Below Grade.
  31. In open pit.
  32. In ditch or trench.
  33. In quarry or mine.
  34. In ravine.
  35. In well.
  36. In water.
  39. At Incident Scene — Outside Below Grade not classified above.
  30. At Incident Scene — Outside Below Grade; insufficient information to classify further.
4. At Incident Scene — Inside Structure at or Above Grade.
  41. Grade level.
  42. Second through fourth stories or equivalent above grade.
  43. Fifth through seventh stories or equivalent above grade.
  44. Above seventh story or equivalent above grade.
  45. In attic regardless of height above grade.
  49. At Incident Scene — Inside Structure at or Above Grade not classified above.
  40. At Incident Scene — Inside Structure at or Above Grade; insufficient information to classify further.
5. At Incident Scene — Inside Structure Below Grade.
  51. One story or equivalent below grade.
  52. Two or more stories below grade.
  53. In a tunnel.
  21. Outside on ground level.
  54. In a sewer.
  59. At Incident Scene — Inside Structure Below Grade not classified above.
50. At Incident Scene — Inside Structure Below Grade; insufficient information to classify further.
6. At Incident Scene — Inside Vehicle.
  61. Motor vehicle passenger compartment.
  62. Motor vehicle cargo compartment.
  63. Rail vehicle.
  64. Boat or ship or barge.
  65. Aircraft.
  69. At Incident Scene — Inside Vehicle not classified above.
  60. At Incident Scene — Inside Vehicle; insufficient information to classify further.
7. At Fire Department Managed Location.
  71. At fire station including surrounding department-owned property.
  72. At training school.
  73. At off station drill site.
  74. At administrative offices.
  75. At maintenance facility.
  76. At communication center.
  77. At off station work site.
  79. At Fire Department Managed Location not classified above.
  70. At Fire Department Managed Location; insufficient information to classify further.
8. At Inspection Site.
  81. Inside structure — normally occupied areas.
  82. Inside structure — service or storage areas.
  83. On roof, fire escape, outside stairways, etc.
  84. On ground outside structure.
  89. At Inspection Site not classified above.
  80. At Inspection Site; insufficient information to classify further.
9. Other.
  99. Where Fire Service Injury or Accident Occurred not classified above.
  00. Where Fire Service Injury or Accident Occurred undetermined or not reported.

## 12-14 Cause of Injury or Accident.

**12-14.1** This data element describes the action or lack of action that directly resulted in the casualty being injured. When the injury occurred as a result of contact with an object, the manner in which that contact occurred should be described.

**12-14.2** The following numbers should be used to classify data about the cause of the injury or accident.

1. Fell, Slipped, or Tripped.
11. Fell, Slipped, or Tripped in or from Structure.
  111. Fell from structure.
  112. Fell or tripped on stairs.
  113. Fell into guarded hole in roof.
  114. Fell into unguarded hole in roof.
  115. Fell into guarded hole in floor.
  116. Fell into unguarded hole in floor.
  117. Fell or tripped over object inside structure.

## 12. Fell, Slipped, or Tripped in or from Emergency Apparatus or Emergency Equipment.

- 121. Fell, slipped, or tripped from emergency apparatus, seat belt not fastened.
- 122. Fell, slipped, or tripped from emergency apparatus, seat belt failed.
- 123. Fell, slipped, or tripped in or into emergency apparatus.
- 124. Fell, slipped, or tripped from a ladder.
- 125. Fell, slipped, or tripped from station sliding pole.

## 13. Fell or Slipped on Flat Surface.

- 131. Fell or slipped on dry, flat surface.
- 132. Fell or slipped on wet, flat surface.
- 133. Fell or slipped on icy, flat surface.

## 14. Fell or Slipped on Incline.

- 141. Fell or slipped on dry incline.
- 142. Fell or slipped on wet incline.
- 143. Fell or slipped on icy incline.

## 15. Fell, Slipped, or Tripped in or on Holes and Objects Outside Structure.

- 151. Fell, slipped, or tripped into guarded hole outside structure.
- 152. Fell, slipped, or tripped into unguarded hole outside structure.
- 153. Fell, slipped, or tripped on or over curb.
- 154. Fell, slipped, or tripped over object outside structure.

## 19. Fell, Slipped, or Tripped Elsewhere.

- 199. Fell, slipped, or tripped not elsewhere classified.
- 100. Fell, slipped, or tripped; insufficient information to classify further.

## 2. Caught or Trapped— By, In, or Between.

## 21. Caught or Trapped in Collapse.

- 211. Caught or trapped in roof collapse.
- 222. Caught or trapped in wall collapse.
- 223. Caught or trapped in floor collapse.
- 224. Caught or trapped in ceiling collapse.
- 229. Caught or Trapped in Collapse not classified above.

## 22. Caught or Trapped by Fire or Explosion.

- 221. Caught or trapped by fire progress.
- 222. Caught or trapped by flashover.
- 223. Caught or trapped by explosion.
- 229. Caught or Trapped by Fire or Explosion not classified above.

## 23. Caught or Trapped by or between Objects.

- 230. Caught or trapped by or between objects.

## 24. Caught or Trapped by or between Vehicles.

- 241. Caught or trapped by or between fire department apparatus or vehicle.
- 242. Caught or trapped by or between non-fire department vehicle.

## 25. Lost in Building.

- 250. Lost in building.

## 26. Caught or Trapped by Earth Cave-in.

- 260. Caught or trapped by earth cave-in.

## 27. Caught or Trapped by Underwater Objects or Obstacles.

- 270. Caught or trapped by underwater objects or obstacles.

## 29. Caught or Trapped Elsewhere.

- 299. Caught or Trapped not classified above.
- 200. Caught or Trapped; insufficient information to classify further.

## 3. Struck By (use when the injury producing object moved toward the injured person).

## 31. Struck by Building Component.

- 311. Struck by collapsing roof.
- 312. Struck by collapsing wall.
- 313. Struck by pieces of wall.
- 314. Struck by collapsing ceiling.
- 315. Struck by ceiling being pulled by self.
- 316. Struck by ceiling being pulled by others.
- 317. Struck by door.

## 32. Struck by Debris Objects.

- 321. Struck by dirt particles.
- 322. Struck by flying glass.
- 323. Struck by glass broken by self.
- 324. Struck by glass broken by others.
- 325. Struck by falling object.
- 326. Struck by thrown object (non-malicious).

## 33. Struck by Water or Other Extinguishing Agent.

- 331. Struck by water stream from handline.
- 332. Struck by water stream from master stream.
- 333. Struck by portable extinguisher stream.

## 34. Struck by Fire Department Apparatus or Equipment.

- 341. Struck by ladder.
- 342. Struck by hand tool.
- 343. Struck by hose.
- 344. Struck by coupling.
- 345. Struck by apparatus or compartment door.
- 346. Struck by apparatus.
- 347. Struck by other fire equipment.

## 35. Struck by Person (non-malicious).

- 351. Struck by fire service personnel.
- 352. Struck by non-fire-service personnel.

## 39. Struck by Something Else.

- 399. Struck by not classified above.
- 300. Struck by; insufficient information to classify further.

## 4. Contact with or Exposure to.

## 41. Contact with or Exposure to Fire and Fire Products.

- 411. Contact with or exposure to fire.
- 412. Contact with or exposure to heat.
- 413. Contact with or exposure to smoke/toxic fire products.
- 414. Contact with or exposure to embers.
- 415. Contact with or exposure to hot metal.
- 416. Contact with or exposure to hot tar.
- 417. Contact with or exposure to steam.

- 418. Contact with or exposure to utility flames, flares, torches, etc.
  - 42. Contact with or Exposure to Hazardous Materials.
    - 421. Contact with or exposure to unusual fumes, gases.
    - 422. Contact with or exposure to chemicals.
    - 423. Contact with or exposure to radioactive material.
  - 43. Contact with or Exposure to Electricity.
    - 430. Contact with or exposure to electricity.
  - 44. Contact with or Exposure to Objects.
    - 441. Contact with splinters.
    - 442. Contact with nails.
    - 443. Contact with glass.
    - 444. Contact with underwater objects.
  - 45. Exposure to Water.
    - 450. Exposure to water.
  - 46. Contact with or Exposure to nature.
    - 461. Contact with or exposure to insects.
    - 462. Contact with or exposure to poisonous plants.
    - 463. Contact with or exposure to contagious disease.
    - 464. Contact with or exposure to extreme weather.
  - 49. Other Contact with or Exposure to.
    - 499. Contact with or Exposure to something not classified above.
    - 400. Contact with or Exposure to; insufficient information to classify further.
  - 5. Overexertion or Strain.
    - 51. Overexertion or Strain While Lifting.
      - 511. Overexertion or strain while lifting hose.
      - 512. Overexertion or strain while lifting ladder.
      - 513. Overexertion or strain while lifting hand tool, saw, etc.
      - 514. Overexertion or strain while lifting victim.
      - 515. Overexertion or strain while lifting property or contents.
      - 518. Overexertion or strain while lifting during a rescue not otherwise classified.
    - 52. Overexertion or Strain While Carrying.
      - 521. Overexertion or strain while carrying hose.
      - 522. Overexertion or strain while carrying ladder.
      - 523. Overexertion or strain while carrying hand tool, saw, etc.
      - 524. Overexertion or strain while carrying victim.
      - 525. Overexertion or strain while carrying property or contents.
      - 528. Overexertion or strain while carrying during rescue not otherwise classified.
    - 53. Overexertion or Strain While Pulling.
      - 531. Overexertion or strain while pulling hose.
      - 532. Overexertion or strain while pulling ladder.
      - 533. Overexertion or strain while pulling hand tool, saw, etc.
      - 534. Overexertion or strain while pulling victim.
      - 535. Overexertion or strain while pulling property or contents.
      - 538. Overexertion or strain while pulling during a rescue not otherwise classified.
  - 54. Overexertion or Strain While Climbing.
    - 541. Overexertion or strain while climbing stairs.
    - 542. Overexertion or strain while climbing ladders.
    - 543. Overexertion or strain while climbing cliff or wall.
  - 59. Other Overexertion or Strain.
    - 599. Overexertion or Strain not classified above.
    - 500. Overexertion or Strain; insufficient information to classify further.
  - 6. Exiting or Escaping.
    - 61. Jumped.
      - 611. Jumped from ladder.
      - 612. Jumped from wall, ledge, or window.
      - 613. Jumped from roof.
      - 614. Jumped from other part of structure.
      - 615. Jumped from fire department apparatus.
    - 69. Other Exiting or Escaping.
      - 699. Exiting or Escaping not classified above.
      - 600. Exiting or Escaping; insufficient information to classify further.
  - 7. Fire Department Apparatus Accident.
    - 71. Fire Department Apparatus Collision.
      - 711. Fire department apparatus collision with another vehicle.
      - 712. Fire department apparatus collision with pedestrian.
      - 713. Fire department apparatus collision with stationary object(s).
    - 72. Fire Department Apparatus Left Road (no collision).
      - 720. Fire department apparatus left road (no collision).
    - 73. Fire Department Apparatus Overturned (no collision).
      - 730. Fire department apparatus overturned (no collision).
    - 79. Other Fire Department Apparatus Accident.
      - 799. Fire Department Apparatus Accident not classified above.
      - 700. Fire Department Apparatus Accident; insufficient information to classify further.
  - 8. Assaulted.
    - 81. Struck by.
      - 811. Struck by individual(s) as a deliberate act.
      - 812. Struck by individuals in a crowd action, pushing or shoving.
      - 813. Struck by thrown objects.
    - 89. Other Assault.
      - 899. Assault not classified above.
      - 800. Assault; insufficient information to classify further.
  - 9. Other Cause of Injury or Accident.
    - 999. Cause of Injury or Accident not otherwise classified.
    - 000. Cause of Injury or Accident undetermined or not reported.
- 12-15 Protective Equipment.**
- 12-15.1** The data elements in this section are to be used together to record the performance of protective clothing or equipment being used by fire service personnel and protecting or designed to protect the part of the body injured. This

will provide a method to determine if there are problems with protective clothing.

**12-15.2** When protective clothing or equipment fails, the following information should be recorded about that piece of protective equipment in addition to the three data elements, protective equipment worn or used, protective equipment status, and protective equipment performance.

- (a) Manufacturer of the protective clothing.
- (b) Model or style of protective clothing.
- (c) Serial Number or lot number of protective clothing.
- (d) Laboratory certification or listing on protective clothing that the equipment complies with a national standard.

**12-15.3 Protective Equipment Type.** The following numbers should be used to classify data about the protective equipment worn or used when it protected the area of the body injured.

1. Head or Face Protection.

- 11. Helmet.
- 12. Full face protector.
- 13. Partial face protector.
- 14. Goggles.
- 15. Hood.
- 16. Ear protector.
- 17. Neck protector.
- 19. Head or Face Protection not classified above.

2. Coat, Shirt, or Trousers.

- 21. Protective coat (sometimes known as a turn-out coat or bunker coat).
- 22. Protective trousers (sometimes known as turnout pants or bunker pants).
- 23. Uniform shirt.
- 24. Uniform t-shirt.
- 25. Uniform trousers.
- 26. Uniform coat or jacket.
- 27. Coveralls.
- 29. Coat, Shirt, or Trousers not classified above.

3. Boots or Shoes.

- 31. Knee length boots with steel baseplate and steel toes.
- 32. Knee length boots with steel toes only.
- 33.  $\frac{3}{4}$  length boots with steel baseplate and steel toes.
- 34.  $\frac{3}{4}$  length boots with steel toes only.
- 35. Boots without steel baseplate or steel toes.
- 36. Safety shoes with steel baseplate and steel toes.
- 37. Safety shoes with steel toes only.
- 38. Non-safety shoes.
- 39. Boots or Shoes not classified above.

4. Respiratory Protection.

- 41. Self-contained open circuit demand-type breathing apparatus.
- 42. Self-contained open circuit positive-pressure breathing apparatus.
- 43. Self-contained closed circuit-type breathing apparatus.
- 44. Non-self-contained breathing apparatus.
- 49. Respiratory Protection not classified above.

5. Hand Protection.

- 51. Fire fighter gloves with wristlets.
- 52. Fire fighter gloves without wristlets.
- 53. Work gloves.
- 54. Hazardous materials gloves.
- 55. Medical gloves.
- 59. Hand Protection not classified above.

7. Special Equipment.

- 71. Proximity suit for entry.
- 72. Proximity suit for non-entry.
- 73. Totally encapsulated, reusable chemical suit.
- 74. Totally encapsulated, disposable chemical suit.
- 75. Partially encapsulated, reusable chemical suit.
- 76. Partially encapsulated, disposable chemical suit.
- 77. Flash protection suit.
- 78. Flight or jump suit.
- 79. Brush suit.
- 81. Self-contained underwater breathing apparatus (SCUBA).
- 82. Exposure suit.
- 83. Life preservers.
- 84. Life belt, ladder belt.
- 85. Personal alert safety system (PASS).
- 86. Radio distress device.
- 87. Personal lighting.
- 88. Fire shelter or tent.
- 89. Special Equipment not classified above.

9. Other Protective Equipment Worn or Used.

- 98. Protective equipment worn or used not a factor.
- 99. Protective equipment worn or used not classified above.
- 00. Protective equipment worn or used undetermined or not reported.

**12-15.4 Protective Equipment Use.** The following numbers should be used to classify data about how the protective equipment was being used or worn when the injury occurred.

1. Head or Face Protection.

- 11. Chin strap in use.
- 12. Chin strap and ear or neck protector in use.
- 13. Ear or neck protector only in use.
- 14. Chin strap and ear or neck protector not in use.

2. Coat or Trouser.

- 21. Coat or trouser open.
- 22. Coat or trouser partially open.
- 23. Coat closed, collar up.
- 24. Coat closed, collar down.
- 25. Trousers or pants worn inside boots.
- 26. Trousers or pants worn without suspension.

3. Boots or Shoes.

- 31.  $\frac{3}{4}$  length boots not pulled up.
- 32. Not used in this edition.
- 33. Shoes or boots worn.
- 34. Shoes or boots not worn.

4. Respiratory Protection.

- 41. Face piece in place and regulator not connected.
- 42. Face piece not properly in place and regulator connected.

- 43. Face piece not properly in place and regulator not connected.
  - 44. Air supply turned off.
  - 45. Harness not secured.
5. Fire Shelter or Tent.
- 51. Fire shelter improperly deployed.
  - 52. Fire shelter not deployed.
  - 53. Fire shelter damaged before or during deployment.
  - 54. Fire shelter damaged after proper deployment.
9. Other Protective Equipment Status. Use only if the status in the above sections is not applicable.
- 91. Being worn properly and used for designed purpose.
  - 92. Being worn properly but not used for designed purpose.
  - 93. Not being worn properly but used for designed purpose.
  - 94. Not being worn properly and not used for designed purpose.
  - 99. Protective Equipment Status not classified above.
  - 00. Protective Equipment Status undetermined or not reported.

**12-15.5 Protective Equipment Performance.** The following numbers should be used to classify data about the how the protective equipment performed when the injury occurred.

- 11. Burned.
- 12. Melted.
- 21. Fractured, cracked, or broke.
- 22. Punctured.
- 23. Scratched.
- 24. Knocked off.
- 25. Cut or ripped.
- 31. Trapped steam or hazardous gases.
- 32. Insufficient insulation.
- 33. Object fell into.
- 41. Failed under impact.
- 42. Face piece or hose detached.
- 43. Exhalation valve inoperative or damaged.
- 44. Harness detached or separated.
- 45. Regulator failed to operate.
- 46. Regulator damaged by contact.
- 47. Problem with admissions valve.
- 48. Alarm failed to operate.
- 49. Alarm damaged by contact.
- 51. Supply cylinder or valve failed to operate.
- 52. Supply cylinder or valve damaged by contact.
- 53. Supply cylinder contained insufficient air or oxygen.
- 95. Not properly serviced or stored prior to use.
- 96. Not used for designed purpose.
- 97. Not used as recommended by manufacturer.
- 98. No failure of protective equipment.
- 99. Protective Equipment Performance not classified above.
- 00. Protective Equipment Performance undetermined or not reported.

## Chapter 13 Prehospital Care

**13-1 Purpose and Application.** This chapter provides data elements and classifications that can be used to identify the

prehospital condition of a person and the care provided by emergency service personnel. Such emergency services personnel may be part of any organized program designed and operated for the purpose of providing emergency medical care to victims at the scene, en route to, and at the hospital.

**13-2 Limitations.** It is difficult to specify duties of emergency responders because their competencies, training, and legal scope of practice vary so widely (MD, RN, EMT, paramedic, fire fighter). The level of medical care provided may vary from simple first aid (immobilization, splinting, bandaging, etc.) administered by fire department or rescue personnel to complex, sophisticated medical treatment administered by trained paramedics, nurses, doctors, etc.

### 13-3 Definitions.

**Cardiopulmonary Resuscitation (CPR).** A system used to revive a victim whose heart and breathing have stopped; it includes applying external heart massage and ventilating the lungs and may be accomplished manually or mechanically.

**Defibrillation.** A system that utilizes a machine-produced electric shock to abolish a life-threatening heart rhythm.

**Emergency Care Attendant.** One who has trained to at least advanced first aid and has additional training but is not an EMT.

**EMS.** Emergency Medical Services.

**EMT.** Emergency Medical Technician — a person who has completed a certified basic life support program and is holding a current certificate.

**Emergency Rescue Vehicle.** A vehicle that is not designed for patient transport, but that contains tools, advanced life support equipment and personnel capable of providing extrication and emergency medical care.

**Mobile Intensive Care Unit.** An ambulance-type unit with space, equipment, supplies, communications, and treatment capabilities necessary for supportive, definitive, and therapeutic emergency medical care for the ill or injured either on-site or during transport.

**Paramedic.** A person who has been certified as an EMT-Paramedic and is qualified to perform body invasive techniques, defibrillation, etc.

**Physician's Assistant.** A person who has been trained to perform patient histories, simple diagnostic lab tests, initiate basic treatment for common illness, treat emergency cases, give comprehensive physical exams, provide continual care and counseling for patients, and work directly with patients all under the supervision of a licensed physician.

**13-4 Discussion and Examples.** Most of the data elements in this chapter measure patient conditions or treatment that typically should require multiple recording for each incident. For example, the patient's physical condition is often measured throughout the treatment cycle. If a reporting system can only accommodate the reporting of one condition, situation, or action, the most significant one should be reported. Ideally, all changes in patient condition, medical actions taken, or changes in the handling of the patient should be recorded.

**13-5 Emergency Medical Responder.** Often medical emergencies involve more than one type of unit to complete the emergency medical care. As an example, an engine company may respond ahead of or in conjunction with an ambulance. Further, the ambulance personnel may transfer the patient to a helicopter for transport. In each case, it is important to understand the type of unit handling the medical emergency,

its affiliation, and the staff training levels so appropriate resource allocation decisions can be made.

The following data elements can be used to identify who responded to the medical emergency and, if desired, to separately identify who transported the patient.

**13-5.1 Type of Unit Handling Medical Emergency.** The following numbers should be used to classify data about the type of unit handling the medical emergency.

1. Ambulance, rescue unit.  
Included are units designed to transport patients.
2. Mobile intensive care unit, medic/heart unit.  
Included are ambulance type units with space, equipment, supplies, communications, and treatment capabilities necessary for the ill or injured either on-site or during transport.
3. Rescue vehicle.  
Included are vehicles not designed for patient transport, but that contain tools, advanced life support equipment, and personnel capable of providing extrication and emergency medical care.
4. Fire department apparatus not included in 1, 2, or 3 above.
5. Air transport unit.  
Included are helicopters and fixed wing aircraft.
9. Type of Unit Handling Medical Emergency not classified above.
0. Type of Unit Handling Medical Emergency undetermined or not reported.

**13-5.2 Affiliation of Responder.** The following numbers should be used to classify data about the affiliation of the persons responding to handle the medical emergency.

1. Fire department.
2. Police department.
3. Emergency medical department.
4. Other municipal or county agency not included in 1, 2, or 3 above.
5. State agency.
6. Federal agency including the military.
7. Private provider.
9. Affiliation of Responder not classified above.
0. Affiliation of Responder undetermined or not reported.

**13-5.3 Responder Medical Training Level.** This data element should be used to classify the level of training for the individual(s) who provided patient care.

1. None.
2. Basic first aid.
3. Advanced first aid.
4. Emergency care attendant.  
Included are persons trained to at least advanced first aid and has additional training but is not an EMT.
5. Basic emergency medical technician (EMT-I).  
Included is basic life support.
6. Advanced life support or paramedic qualified to perform body invasive techniques, defibrillation, etc.  
Included are cardiac care technicians.
7. Nurse.

8. Physician's assistant.  
Included are persons trained to perform patient histories, simple diagnostic lab tests, initiate basic treatment for common illness, treat emergency cases, give comprehensive physical exams, provide continual care and counseling for patients and work directly with patients all under the supervision of a licensed physician.
9. Doctor, physician.
0. Responder Medical Training Level undetermined or not reported.

**13-6 Patient Physical Condition.** The condition of a patient's overall health status is generally assessed using a set of key biomedical indicators. In patient care, these indicators are often assessed initially and several times during the treatment. As these indicators are time dependent, the time should be recorded with each observation.

**13-6.1 Lung Sounds.** The following numbers should be used to classify data about the patient's lung sounds.

1. Clear.
2. Stridor.
3. Rales — includes wheezes, ronchi.
4. Diminished breath sounds.
5. Absent breath sounds.
0. Lung Sounds undetermined or not reported.

**13-6.2 Lung Sound Location.** The following numbers should be used to classify data about the location where the lung sounds (*see 13-6.1*) are being observed.

1. Bilaterally equal.
2. Right.
3. Left.
4. None.
0. Lung Sound Location undetermined or not reported.

**13-6.3 Skin Color.** The following numbers should be used to classify data about the color of the patient's skin.

1. Normal.
2. Cyanotic.
3. Pale, ashen.
4. Flushed.
0. Skin Color undetermined or not reported.

**13-6.4 Skin Temperature.** The following numbers should be used to classify data about the temperature of the patient's skin.

1. Normal.
2. Hot and dry.
3. Hot and moist.
4. Cool and dry.
5. Cool and moist.
0. Skin Temperature undetermined or not reported.



**13-6.5 Pupil Size.** The following numbers should be used to classify data about the size of the pupils on a patient.

1. Equal.
2. Unequal.
3. Medical or surgical anomaly.
0. Pupil Size undetermined or not reported.

**13-6.6 Pupil Reactivity.** The following numbers should be used to classify data about the reactivity of the pupils on a patient.

1. Reactive.
2. Not reactive.
0. Pupil Reactivity undetermined or not reported.

**13-6.7 Pupil Position.** The following numbers should be used to classify data about the position of the pupils on a patient.

1. Midposition.
2. Dilated.
3. Constricted.
0. Pupil Position undetermined or not reported.

**13-6.8 Pulse Character.** The following numbers should be used to classify data about the pulse character of a patient. This should include both its character and the regularity of the rate.

1. Strong and regular.
2. Strong and irregular.
3. Weak and regular.
4. Weak and irregular.
5. None.
0. Pulse Character undetermined or not reported.

**13-6.9 Respiration Character.** The following numbers should be used to classify data about the respiration characteristics of a patient. This should include both the regularity of the rhythm and its depth, with the respiration rate as number of breaths per minutes.

1. Regular rhythm and normal depth.
2. Regular rhythm and deep depth.
3. Regular rhythm and shallow depth.
4. Irregular rhythm and normal depth.
5. Irregular rhythm and deep depth.
6. Irregular rhythm and shallow depth.
8. None.
0. Respiration Character undetermined or not reported.

**13-6.10 Patient Status.** The following numbers should be used to classify data about the general state of mental and physiological awareness of the patient.

1. Conscious.
2. Semiconscious.
3. Unconscious.

4. Apparently dead.
0. Patient Status undetermined or not reported.

**13-6.11 Patient Behavior.** The following numbers should be used to classify data about the general behavior of the patient.

1. Normal (for the situation).
2. Acutely depressed, disturbed, upset.
3. Confused, disoriented, stuporous.
4. Hallucinating.
5. Homicidal.
6. Impaired by drugs or alcohol.
7. Uncontrollable, unduly aggressive, unruly.
8. Suicidal.
9. Patient Behavior not classified above.
0. Patient Behavior undetermined or not reported.

**13-7 Cardiac Condition/Assessment.** This data element is used to record and classify data on the assessment of the cardiac condition of a patient.

1. Sinus.
  11. N.S.R. (normal sinus rhythm).
  12. Sinus tachy (sinus tachycardia).
  13. Sinus brady (sinus bradycardia).
  14. Sinus arrhythmia.
  15. S.A. arrest (sino-atrial arrest).
2. Atrial.
  21. Wandering pacemaker.
  22. P.A.C.s (premature atrial contractions).
  23. P.A.T.s (paroxysmal atrial tachycardia).
  24. Atrial flutter.
  25. Atrial fibrillation.
3. Nodal Junction.
  31. P.N.C.s (premature nodal contractions).
  32. Nodal rhythm/junctional.
  33. AV nodal tach — SVT (atrial-ventricular nodal tachycardia-supra-ventricular tachycardia).
4. Blocks.
  41. 1st A.V. block (1st degree atrial-ventricular block).
  42. 2nd A.V. block T-1 (2nd degree atrial-ventricular block type 1).
  43. 2nd A.V. block T-2 (2nd degree atrial-ventricular block type 2).
  44. 3rd A.V. block (3rd degree atrial-ventricular block).
5. Ventricular.
  51. PVC - 5 or less per minute (premature ventricular contraction).
  52. PVC - 6 or more per minute.
  53. PVC - on T-Wave.
  54. PVC - Bigeminy.
  55. PVC - Trigeminy.
  56. V tach (ventricular tachycardia).
  57. V fibrillation (ventricular fibrillation).
6. Non-Productive.

- 61. Asystole.
- 62. Idioventricular rhythm.
- 63. EMD (electro-mechanical dissociation).

9. Other.

- 99. Cardiac Condition/Assessment not classified above.
- 00. Cardiac Condition/Assessment undetermined or not reported.

**13-8 Prehospital Care Provided.** This data element defines the care and treatment provided prior to the patient's possible transport to the hospital. The following numbers should be used to classify data about the pre-hospital care provided to a patient.

- 01. Antishock trousers.
- 02. Aspirate (suction).
- 03. Blood drawn.
- 04. Cardiopulmonary resuscitation (CPR).
- 05. Cervical collar.
- 06. Control bleeding.
- 07. Defibrillation.
- 08. Demand valve ventilation (inhalation).
- 09. Dress wound.
- 10. EKG transmitted.
- 11. Esophageal obturator airway.
- 12. Extricate patient.
- 13. Ice pack.
- 14. Irrigate with water or saline.
- 15. OB delivery.
- 16. Oropharyngeal airway.
- 17. Orthopedic stretcher.
- 18. Positive pressure ventilation (resuscitation).  
Excluded is demand valve ventilation (08).
- 20. Psychiatric intervention.
- 21. Restrain patient.
- 22. Rotating tourniquet.
- 23. Sand bags.
- 24. Sling.
- 25. Spine board [1 m (3 ft)].
- 26. Spine board [2 m (6 ft)].
- 27. Splint.  
Included are air, board, other splints.
- 28. Thrust — abdomen or chest.
- 29. Tourniquet.
- 30. Tracheal intubation.
- 31. Traction splint.
- 32. Valsalva maneuver.
- 41. Prearrival instruction given by dispatcher via telephone based on predetermined instruction.
- 98. No treatment given.
- 99. Prehospital Treatment not classified above.
- 00. Prehospital Treatment undetermined or not reported.

**13-9 Medication.** The treatment of patients in the field often involves the administration of drugs and fluids. Both the drug or fluid administered and the medication route should be specified.

**13-9.1 Drugs or Fluids Administered.** The following numbers should be used to classify the drug or fluid administered to the patient.

- 01. Activated charcoal.
- 02. Atropine.
- 03. Calcium chloride or gluconate.
- 04. Corticosteroids.
- 05. Dextrose in water D<sup>5</sup>O with glucose.
- 06. Diazepam (Valium).
- 07. Diphenhydramine HCL (Benadryl).
- 08. Dopamine.
- 09. Epinephrine.
- 10. Furosemide (Lasix).
- 11. Intravenous fluids.  
Included are dextrose in water D5W, dextrose in saline, dextrose in Ringers lactate, Ringers lactate (RL), and normal saline (NSS).
- 12. Ipecac.
- 13. Isoproterenol (Isuprel).
- 14. Lidocaine HCL.
- 15. Metaraminol (Aramine).
- 16. Naloxone (Narcan).
- 17. Narcotic.  
Including MS.
- 18. Nitroglycerine (NTG).
- 19. Nitrous oxide (NO<sub>2</sub>).
- 20. Plasmanate.
- 21. Sodium bicarbonate.
- 99. Drugs or Fluids Administered not classified above.
- 00. Drugs or Fluids Administered undetermined or not reported.

**13-9.2 Medication Route.** The following numbers should be used to classify the medication route used to administer the drug or fluid to the patient. The medication route should be tied to a specific drug or fluid administered.

- 01. Endotracheal.
- 02. Intramuscular.
- 03. Subcutaneous.
- 04. Oral.
- 05. Sublingual.
- 06. Suppository.
- 07. IV bolus (push).
- 08. IV infusion (drip).
- 09. Inhalation.
- 99. Medication Route not classified above.
- 00. Medication Route undetermined or not reported.

**13-10 Patient Disposition.** This data element indicates the transportation aspects of the emergency medical service run for this patient. The following numbers should be used to classify data about the patient disposition.

- 1. Transported patient under emergency conditions.
- 2. Transported patient under non-emergency conditions.
- 3. Treatment given but patient not transported.
- 4. Patient refused service or EMS crew declined to transport.
- 5. Patient transported by other means.

6. Good intent call — no patient transported.
7. Nothing found at location given.
8. Proven or suspected false call.
9. Standby at other than EMS incident.
0. Patient Disposition undetermined or not reported.

## Chapter 14 Hazardous Materials Data

**14-1 Purpose and Application.** The purpose of the data elements outlined in this chapter is to provide a uniform way of collecting hazardous material release or potential release information.

These data elements can be used to account for the utilization of resources, determine the hazard to the public and fire service personnel, provide the basis for prevention measures, substantiate the need for changes in regulations, and aid recovery of public mitigation costs by documenting responsible persons. Other data, such as location of incident and the times that resources are dispatched, used, released, etc., will also be needed to complete the incident and utilization of resource information.

**14-2 Limitations.** Classifications contained in this chapter are intended only for the collection of hazardous materials incident data.

**14-3 Discussion and Examples.** In order to reconstruct significant information about a hazardous materials incident, several data element groups must be collected to the fullest extent possible.

### 14-4 Hazardous Materials Identification.

**14-4.1 Hazardous Materials Chemical or Trade Name.** The common chemical name of the product or the name ascribed by the manufacturer to the product. At this time there is no unique way to describe every chemical, compound, mixture, and product that is hazardous. Therefore, the name used in conjunction with other established codes such as the United States Department of Transportation (DOT) Hazardous Material Identification Number, the United Nations Hazard Class Number, and the Chemical Abstract Service (CAS) number will assist in uniquely identifying the hazardous material involved.

**14-4.2 DOT Identification Number.** The DOT number is a four digit identification number assigned to the hazardous material by the United States Department of Transportation (DOT). This number can be obtained from the most recent edition of the Emergency Response Guidebook (DOT P5800.6) or its successor as published from time to time.

### 14-4.3 United Nations Class Number.

**14-4.3.1** The U.N. class or division number describes the primary hazard associated with the material released.

**14-4.3.2** The following numbers and descriptions are the United Nations Classification system. The number can be used to record the classification of the hazardous material.

1. **Explosives and Blasting Agents.**  
Included are Class A explosives such as dynamite, dry TNT, and black powder; Class B explosives such as propellant explosives, charged rocket motors, and special fireworks; and Class C explosives such as common fireworks, small arms ammunition, and ammonium nitrate-fuel oil mixtures.
2. **Flammable, Nonflammable, and Cryogenic Gases.**  
Included are gases even if compressed, in liquid form, or dissolved under pressure.  
Examples include liquefied petroleum gas, acetylene, hydrogen, carbon dioxide, sulfur dioxide, anhydrous ammonia, ethylene, and nitrogen.
3. **Flammable, Pyroforic, or Combustible Liquids.**  
Included are acetone, gasoline, methyl alcohol, aluminum alkyls, alkyl boranes, fuel oils, and ethylene glycols (cellosolves).
4. **Flammable, Water Reactive, or Spontaneously Combustible Solids.**  
Included are pyroxylin plastic, magnesium, aluminum powder, sodium and potassium metals and alloys, calcium carbide, and phosphorus.
5. **Oxidizers or organic peroxides.**  
Included are ammonium nitrate fertilizer, hydrogen peroxide solution, benzoyl peroxide, and peracetic acid solution.
6. **Poisonous, Irritant, or Etiologic Agent.**  
Included are arsine, hydrocyanic acid, phosgene, aniline, arsenic, methyl bromide, tear gas, xylol bromide, anthrax, botulism, rabies, tetanus, and other infectious substances.
7. **Radioactive Substances.**  
Included are plutonium metal and salts, cobalt 60, uranium metal and salts, uranium hexafluoride.
8. **Corrosives.**  
Included are acids such as hydrochloric acid, oleum, and sulfuric acid; and bases such as caustic soda, caustic potash, and anhydrous ammonia.
9. **Other Hazardous Materials.**  
Included are dry ice, carbon tetrachloride, quicklime, metallic mercury, oakum, bleaching powder, pentachlorophenol, adipic acid, and hazardous waste.
0. **United Nations Class Number undetermined or not reported.**

**14-4.4 CAS Number.** The Chemical Abstract Services (CAS) Number is a nine digit number that classifies chemicals for identification purposes. Even though these numbers are not totally unique, they provide the best current method of classifying chemicals.

### 14-4.5 Physical State of Hazardous Material.

**14-4.5.1** This data element describes the physical state of a material under various conditions. It can be used to classify the physical state while a material is stored or when it has been released. With many hazardous materials, changes in physical state will occur upon release and require different methods to handle the material. It is recommended that the physical state of the hazardous material be recorded both as it was in its container and as it was after its release.

**14-4.5.2** The following numbers should be used to classify data about the physical state of a hazardous material.

1. Solid.
2. Liquid.
3. Gas.
0. Physical State of Hazardous Material undetermined or not reported.

#### **14-4.6 Personnel Identifying Hazardous Material.**

**14-4.6.1** This data element describes a variety of personnel who could be on-scene or off-scene but who were responsible for identifying the hazardous material. This data element is best used with the data element "Reference Material Used" (*see 14-4.7*) as the combination shows who identified the material and what they used for resources.

**14-4.6.2** The following numbers should be used to classify data about the personnel who identified the hazardous material.

1. On-Site Fire Department Personnel.
  11. Hazardous materials team personnel.
  12. Fire service personnel not specifically trained in hazardous materials.  
Excluded are hazardous materials team personnel (11) and hazardous materials specialists and technicians (13).
  13. Hazardous materials specialist, technician.
  14. Chemist, toxicologist.
  15. Medical doctor.
  17. Laboratory personnel.
  19. On-Site Fire Department Personnel not classified above.
2. Off-Site Fire Department Personnel.
  21. Hazardous materials team personnel.
  22. Fire service personnel not specifically trained in hazardous materials.  
Excluded are hazardous materials team personnel (11) and hazardous materials specialists and technicians (13).
  23. Hazardous materials specialist, technician.
  24. Chemist, toxicologist.
  25. Medical doctor.
  26. Dispatch center personnel.
  27. Laboratory personnel.
  29. Off-Site Fire Department Personnel not classified above.
3. On-Site Non-Fire Service Personnel.
  31. Brigade, hazardous materials response team.
  32. Responsible owner, manager, supervisor.
  33. Driver of transporting vehicle.
  34. Chemist, toxicologist.
  35. Medical doctor.
  37. Laboratory personnel.
  41. Hazardous materials response team personnel.  
Excluded are hazardous materials clean-up personnel (48).
  43. Hazardous materials specialist.  
Excluded are hazardous materials clean-up personnel (48).
  48. Hazardous materials clean-up personnel.
  49. On-Site Non-Fire Service Personnel not classified above.
  40. On-Site Non-Fire Service Personnel; insufficient information to classify further.
5. Off-Site Non-Fire Service Personnel.

51. Hazardous materials response team personnel.
52. Responsible owner, manager.
54. Chemist, toxicologist.  
Excluded are toxic or poison center (58) or university (61).
55. Medical doctor.  
Excluded are medical center/hospital (62).
56. Dispatcher.
57. Laboratory personnel.
58. Toxic center.
59. Chemtrec, industrial expert.
61. University.
62. Medical center/hospital.  
Excluded are medical doctor (55).
63. Hazardous materials specialist, consultant.
69. Off-Site Non-Fire Service Personnel not classified above.
60. Other Off-Site Non-Fire Service Personnel; insufficient information to classify further.

#### **9. Other Personnel.**

99. Personnel Identifying Hazardous Material not classified above.
00. Personnel Identifying Hazardous Material undetermined or not reported.

#### **14-4.7 Reference Material Used.**

**14-4.7.1** This data element describes a variety of informational sources that can assist in identifying a hazardous material. This data element is best used with the data element "Personnel Identifying Hazardous Material" (*see 14-4.6*) as the combination shows who identified the material and what they used for resources.

**14-4.7.2** The following numbers should be used to classify data about the reference material used to identify the hazardous material.

1. On-Site Reference Materials.
  11. Department of Transportation (DOT) manual.
  12. Chemical Hazards Response Information System (CHRIS) manual.
  13. Material safety data sheet (MSDS).
  14. Placards or signs on building, room, container, vehicle.
  15. Labels.
  16. Computer software.
  17. Shipping papers and inventory listings.
  18. Handbooks, textbooks, reference books.  
Excluded are the DOT Manual (11) and CHRIS Manual (12)
  19. On-Site Reference Materials not classified above.
2. Off-Site Reference Materials.
  21. Department of Transportation (DOT) manual.
  22. Chemical Hazards Response Information System (CHRIS) manual.
  23. Material safety data sheet (MSDS).
  24. This classification not used in this edition.
  25. Contractual information services.
  26. Computer software.
  27. Shipping papers and inventory listings.
  28. Handbooks, textbooks, reference books.  
Excluded are the DOT Manual (21) and CHRIS Manual (22)
  29. Off-Site Reference Materials not classified above.

## 9. Other Reference Material Used.

- 98. No reference material used.
- 99. Reference Material Used not classified above.
- 00. Reference Material Used undetermined or not reported.

**14-5 Container Description.****14-5.1 Container Type.**

**14-5.1.1** This data element describes the type or configuration of the container used to hold the hazardous material.

**14-5.1.2** The following numbers should be used to classify data about the type of container.

NOTE: For incident reporting, a barrel is a unit of measure. Classify containers commonly referred to as barrels in classification 11 (drums).

## 1. Portable container.

- 11. Drum.
- 12. Cylinder.
- 13. Can or bottle.
- 14. Carboy.
- 15. Box or carton.
- 16. Bag.
- 18. Hose.
- 19. Portable Container not classified above.
- 10. Portable Container; insufficient information available to classify further.

## 2. Fixed container.

- 21. Tank or silo.  
Excluded are product tanks attached to or towed by vehicles (42).
- 22. Pipe or pipeline.  
Excluded are flexible hoses (28).
- 23. Bin.
- 24. Machinery or process equipment.
- 28. Hose.
- 29. Fixed Container not classified above.
- 20. Fixed Container; insufficient information available to classify further.

## 3. Natural Containment.

- 31. Sump or pit.
- 32. Pond or surface impoundment.
- 33. Well.
- 34. Dump site or land fill area.
- 39. Natural Containment not classified above.
- 30. Natural Containment; insufficient information available to classify further.

## 4. Mobile Container.

- 41. Vehicle fuel tank and associated piping.
- 42. Product tank on or towed by vehicle.
- 43. Piping associated with the mobile product tank for loading and off-loading.
- 48. Hose.
- 49. Mobile Container not classified above.
- 40. Mobile Container; insufficient information available to classify further.

## 9. Other Container Type.

- 98. No container.
- 99. Container Type not classified above.
- 00. Container Type undetermined or not reported.

**14-5.2 Container Material.**

**14-5.2.1** This data element identifies the material of construction of the container that was the apparent source of failure in a hazardous materials release.

**14-5.2.2** The following numbers should be used to classify data about the container's material of construction.

- 1. Iron, steel, and other iron alloys.
- 2. Aluminum, aluminum alloys.
- 3. Copper, brass, bronze, and other copper alloys.
- 4. Plastic/fiberglass, rigid.
- 5. Plastic or rubber, flexible.
- 6. Wood, paper, textile, and other cellulose products.
- 7. Glass, pottery, and clay.
- 8. No container.
- 9. Container Material not classified above.
- 0. Container Material undetermined or not reported.

**14-5.3 Special Container Features.**

**14-5.3.1** This data element is used to identify those special features of a container that are designed to keep the contents of that container in the appropriate state or to protect the container from accidentally releasing the contents.

**14-5.3.2** The following numbers should be used to classify data about any special features of the container.

- 1. Insulated.
- 2. Pressurized.
- 3. Armored.  
Included are special features added to prevent the failure of the primary container.
- 4. Insulated and pressurized.
- 5. Insulated and armored.
- 6. Insulated, armored, and pressurized.
- 7. Armored and pressurized.
- 8. No Special Container Features.
- 9. Special Container Features not classified above.
- 0. Special Container Features undetermined or not reported.

**14-5.4 Container Capacity and Units of Measure.**

**14-5.4.1** It is recommended that the design capacity of the container be recorded. The design capacity is more useful than the actual quantity of material in the container because this data element will help assess the total release potential for this container. The actual capacity of the container in pounds, gallons, cubic feet, or some other unit of measurement should be recorded. Be sure to record what the units of measure are. (*See 14-5.4.2 for appropriate classifications of units of measure.*)

**14-5.4.2** This data element can be used to record what units the capacity of a container or the amount of hazardous material released are measured in.

1. Volumetric Units.
  11. Ounce (liquid).
  12. Gallon.
  13. Barrel (42 gal).
  14. Liter.
  15. Cubic ft.
  16. Cubic meter.
2. Weight Units.
  21. Ounce (weight).
  22. Pound.
  23. Gram.
  24. Kilogram.

#### 14-6 Release Information.

**14-6.1 Quantity Released.** The amount of hazardous material released should be recorded using the common measurement for the particular material. However, it is important to know the units of measure that the quantity is being expressed in (e.g., pounds, gallons, cu ft, etc.). (*See 14-5.4.2 for classifications for units of measure.*)

#### 14-6.2 Extent of Hazardous Materials Release.

**14-6.2.1** The extent of release describes the physical scope of confinement or the size of the physical area encompassed by the released material. This information can be useful in regulating the location, use, and transportation of hazardous materials.

**14-6.2.2** The following numbers should be used to classify data about the extent of the hazardous material release.

1. Confined to vehicle/equipment of origin.
2. Confined to room or origin.
3. Confined to story of origin.
4. Confined to structure of origin.
5. Confined to specific property use of origin.
6. Confined to general property use.
7. Released beyond general property use of origin.
8. No release.
9. Extent of Hazardous Materials Release not classified above.
0. Extent of Hazardous Materials Release undetermined or not reported.

**14-6.3 Environmental Contamination.** This data element is used to record and classify data about the actual or suspected areas of environmental contamination.

1. Air.
2. Water.
3. Ground.
4. Water and ground.
5. Air and ground.
6. Water and air.
7. Air, water, and ground.
8. No environmental impact.

9. Environmental Contamination not classified above.
0. Environmental Contamination undetermined or not reported.

#### 14-6.4 Hazardous Materials Release Factors.

**14-6.4.1** This data element describes the factors present at the time and place of the incident that caused, or contributed to, the release, or threatened release, of a hazardous material. The data will assist in the development and targeting of prevention measures.

**14-6.4.2\*** The following numbers should be used to classify data about factors that caused or contributed to the hazardous materials release.

1. Intentional.
  11. Intentional act.  
Evidence is present that leads the reporting person to conclude that the hazardous material was deliberately released.
  12. Suspicious.  
Physical evidence indicates the possibility that the hazardous material was deliberately released, but insufficient evidence exists to conclude that it was intentional and may require additional investigation.
2. This division not used in this edition.
3. Failure to Control Hazardous Material.
  31. Abandoned, discarded hazardous material.  
Excluded are intentional acts (11), falling asleep (33), impairment by drugs or alcohol (37), or other impairments (38).
  32. Failure to maintain proper storage or use temperature.
  33. Falling asleep and losing control of operations.
  34. Inadequate control of hazardous materials.  
Included are improper transfer and overfilling of a container. Excluded are accidental release due to improper container (45).
  35. This subdivision not used in this edition.
  36. This subdivision not used in this edition.
  37. Person impaired by drugs or alcohol while controlling hazardous materials.  
Included are people who fall asleep as a result of drugs or alcohol. Excluded are people who simply fall asleep (33).
  38. Person otherwise impaired.  
Included are unconsciousness; mental, physical impairment. Excluded are people who simply fall asleep (33).
  39. Failure to Control Hazardous Materials not classified above.
  30. Failure to Control Hazardous Materials; insufficient information available to classify further.
4. Misuse of Hazardous Materials.
  41. This subdivision not used in this edition.
  42. Improper mixing technique.  
Included are mixing and compounding of chemicals. Excluded are hazardous materials spilled (34).
  43. Hazardous materials used improperly.  
Included are chemicals used for the wrong purpose.
  44. This subdivision not used in this edition.
  45. Improper container.  
Included are containers not designed for the hazardous material contained.
  46. Improper movement of hazardous materials containers.

47. Improper storage procedures.  
Included are storage near heating equipment and moving parts.
  48. Children playing with hazardous materials and having no knowledge of the dangers of hazardous materials.  
Excluded are intentional acts (11).
  49. Misuse of Hazardous Materials not classified above.
  40. Misuse of Hazardous Materials; insufficient information available to classify further.
5. Mechanical Failure, Malfunction.  
Where there is human failure to control, classify in division 3.
51. Automatic control failure.
  52. Manual control failure.
  53. Short circuit, ground fault.
  54. Other part failure, leak, break.
  55. Other electrical failure.
  56. Lack of maintenance, worn out.  
Included are failures to maintain hazardous materials handling equipment.  
Excluded are short circuits, ground fault (53), and failure to clean (75).
  59. Mechanical Failure, Malfunction not classified above.
  50. Mechanical Failure, Malfunction; insufficient information available to classify further.
6. Design, Construction, Installation Deficiency.
61. Design deficiency.  
Included are structures and containers improperly designed for the specific hazardous material.
  62. Construction deficiency.  
Included are improperly built structures and containers.
  63. This subdivision not used in this edition.
  64. Installation deficiency.  
Included are the improper installation of equipment for handling or processing hazardous materials.
  69. Design, Construction, Installation Deficiency not classified above.
  60. Design, Construction, Installation Deficiency; insufficient information available to classify further.
7. Operational Deficiency.  
Where equipment was misused, classify in division 7.  
Misuse of hazardous materials should be classified in division 4.
71. Collision, overturn, knockdown.  
Included are automobiles, vehicles.
  72. Accidentally turned on, not turned off.
  73. Equipment unattended.
  74. Equipment overload.
  75. Failure to clean equipment.
  76. Improper startup, shutdown procedures.
  77. Equipment used for purpose not intended.  
Excluded is overloaded equipment (74).
  78. Equipment not being operated properly.  
Included are situations where safety or control devices are bypassed.
  79. Operational Deficiency not classified above.
  70. Operational Deficiency; insufficient information available to classify further.
8. Natural Condition.  
For use where the natural condition below changed a normally safe operation into an unsafe one.
81. High wind.
  82. Earthquake.
  83. High water, flood.
  84. Lightning.
  85. Low humidity.
  86. High humidity.
  87. Low temperature.
  88. High temperature.
  89. Natural Condition not classified above.
  80. Natural Condition; insufficient information available to classify further.
9. Other Release Factors.
91. Animal.
  92. Secondary release following previous release.
  93. Reaction with other chemical.
  94. Explosion and fire.  
Included are releases of hazardous material as a result of an explosion and fire.  
Excluded are releases where there is an explosion only (95) and fire only (96).
  95. Explosion only, no after-fire.
  96. Fire only, no explosions.  
Included are releases of hazardous materials by the fire or during fire-fighting operations.
  97. Failure to use ordinary care under the circumstances, not classified above.
  98. No release.
  99. Hazardous Materials Release Factor not classified above.
  00. Hazardous Materials Release Factor undetermined or not reported.

#### 14-7 Responsible Persons.

**14-7.1 Witness Identification.** It is helpful to record the name, address, and telephone numbers of each person who witnessed the release of the hazardous materials or the accident that led to the release.

**14-7.2 Driver's License Number and State.** The driver's license number of the person operating the vehicle at the time of the incident and the state of the registration on the driver's license are useful in identifying an important witness to the incident if further information is needed at a later time.

**14-7.3 ICC/DOT Number.** The "ICC/DOT Number" identifies the commercial carrier by either the Interstate Commerce Commission (ICC) or the Department of Transportation (DOT) registration. From this number detailed information on the responsible parties involved in the incident can be obtained.

#### 14-8 Disposition of Incident.

**14-8.1** The disposition of incident describes how the fire service participation in a hazardous materials incident ended. Disposition data provides a link to other agencies and their data to establish the sequence of events from release through complete restoration of the area if possible. Information regarding disposition of the incident will further assist the fire service in better understanding the extent to which they are fully resolving the incident and the extent to which other agencies are providing assistance in incident mitigation.

**14-8.2** The following numbers should be used to classify data about the disposition of the hazardous materials release incident.

1. Incident completed by fire service only.
2. Incident completed while fire service was present. Included are incidents where assistance was provided by non-fire-service agencies.
3. Incident scene released for disposition to local agency.
4. Incident scene released for disposition to county agency.
5. Incident scene released for disposition to state agency.
6. Incident scene released for disposition to federal agency.
7. Incident scene released for disposition to private agency.
8. Incident scene released for disposition to property owner/manager.
9. Disposition of Incident not classified above.
0. Disposition of Incident undetermined or not reported.

## Chapter 15 Referenced Publications

**15-1** The following documents or portions thereof are referenced within this guide and should be considered part of the recommendations of this document. The edition indicated for each reference is the current edition as of the date of the NFPA issuance of this document.

**15-1.1 NFPA Publications.** National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 10, *Standard for Portable Fire Extinguishers*, 1994 edition.

NFPA 11, *Standard for Low-Expansion Foam*, 1994 edition.

NFPA 11A, *Standard for Medium- and High-Expansion Foam Systems*, 1994 edition.

NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*, 1993 edition.

NFPA 12A, *Standard on Halon 1301 Fire Extinguishing Systems*, 1992 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 1994 edition.

NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*, 1994 edition.

NFPA 13R, *Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height*, 1994 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 1993 edition.

NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, 1990 edition.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, 1994 edition.

NFPA 69, *Standard on Explosion Prevention Systems*, 1992 edition.

NFPA 72, *National Fire Alarm Code*, 1993 edition.

NFPA 80A, *Recommended Practice for Protection of Buildings from Exterior Fire Exposures*, 1993 edition.

NFPA 101®, *Life Safety Code®*, 1994 edition.

NFPA 220, *Standard on Types of Building Construction*, 1995 edition.

NFPA 251, *Standard Methods of Tests of Fire Endurance of Building Construction and Materials*, 1995 edition.

NFPA 256, *Standard Methods of Fire Tests of Roof Coverings*, 1993 edition.

NFPA 321, *Standard on Basic Classification of Flammable and Combustible Liquids*, 1991 edition.

NFPA 325, *Guide to Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids*, 1994 edition.

**15-1.2 BOCA Publications.** Building Officials and Code Administrators International, Inc., 4051 West Flossmoor Rd., Country Club Hills, IL 60478-5795.

The BOCA® *National Building Code*, 1993 edition.

**15-1.3 ICBO Publications.** International Conference of Building Officials, 5360 Workman Mill Road, Whittier, CA 90601.

*Uniform Building Code*, 1994 edition.

**15-1.4 SBCCI Publications.** Southern Building Code Congress International, Inc., 900 Montclair Road, Birmingham AL 35213-1206.

*Standard Building Code*, 1994 edition.

**15-1.5 U.S. Postal Service Publications.** U.S. Postal Service, 475 L'Enfant Plaza SW, Washington, DC 20260-6800.

National Five-Digit Zip Code and Post Office Directory, 1993 edition.

## Appendix A Explanatory Material

*This appendix presents alphabetic lists of terms used with some of the data elements. The lists are designed to assist users in selecting the proper classification to use with these data elements.*

**A4-6.2 General Property Use.** The following alphabetical list is based on the logic and definitions presented in 4-6.2 for general property use. A person using this list should review the classification assigned in 4-6.2 to ensure that there are no qualifications on the definition of the term.

81	Agricultural product storage
65	Agricultural use
97	Air transportation use
97	Airport
84	Alcoholic beverage storage
34	Ambulatory health care
11	Amusement park
42	Apartment
15	Archival use
63	Armory
12	Athletic facility
12	Ball park
72	Beverage industry
45	Board and care-residential
59	Business use
58	Business w/residential use
11	Campsite: improved
31	Care of handicapped w/24-hour nursing staff
32	Care of handicapped w/o 24-hour nursing staff
14	Casino
13	Cemetery
86	Chemical product storage
86	Chemical storage
52	Cleaner
14	Club
22	College



64	Communication use	47	Mobile home park
42	Condominium-residential	44	Motel
92	Construction site	96	Motor vehicle transportation use
36	Correctional use	42	Multi-family residential use
14	Country club	15	Museum
15	Court	93	National forest
64	Data processing center	31	Nursing care
63	Defense use	59	Office
92	Demolition site	72	Oil industry, essential
51	Department store	41	One- and two-family residential use
36	Detention use	65	Orchards
51	Discount store	76	Paper industry
16	Drinking establishment	85	Paper product storage
18	Drive-in theater	11	Park
41	Dwelling	45	Personal care
21	Education through secondary level	84	Petroleum products storage
12	Exhibition use	86	Plastic product storage
65	Farm use	86	Plastic storage
71	Food industry	61	Power production, distribution
16	Food service use	21	Primary level education use
83	Food storage, processed	76	Printing industry
74	Footwear industry	36	Prison
13	Funeral use	83	Processed food storage
76	Furniture industry	92	Property undergoing transformation
14	Golf club	98	Property w/no apparent use
59	Government office use (not military)	11	Public recreation use
11	Government park	67	Quarry
43	Group living use	12	Racetrack
31	Handicapped care w/24-hour nursing staff	95	Railroad use
32	Handicapped care w/o 24-hour nursing staff	11	Recreation park
34	Health care-ambulatory	91	Refuse disposal
32	Health care-limited	13	Religious use
31	Health care-nursing	62	Research facility
96	Highway	45	Residential board and care
15	Historic use	45	Residential board and care
33	Hospital	48	Residential w/business use
44	Hotel	42	Residential: multi-family
66	Indian reservation	41	Residential: single- or two-family
44	Inn	16	Restaurant
15	Judicial use	51	Retail sales use
62	Laboratory	96	Road
74	Leather industry	74	Rubber industry
15	Legislative use	21	School through secondary level
15	Library	21	Secondary level education use
65	Livestock production	52	Service use
93	Local forest	51	Shopping center
44	Lodge	12	Sports garden
52	Maintenance use	12	Stadium
94	Marina	93	State forest
33	Medical care use	51	Store
14	Men's club	96	Street
33	Mental institution	18	Studio
77	Metal industry	14	Tennis club
87	Metal product storage	73	Textile industry
77	Metal products industry	82	Textile storage
87	Metal storage	18	Theater
63	Military reservation	68	Timberland
67	Mine, quarry	72	Tobacco industry

83	Tobacco storage	841	Airport bulk plant
68	Tree farms	981	Airport construction
22	University	632	Airport control tower
78	Vehicle assembly, manufacture	841	Airport gasoline distributing
88	Vehicle storage	171	Airport passenger terminal
94	Water	322	Alcohol abuse center – limited care
94	Waterfront		Alcohol abusers: personal care of (see 322 and 451-452)
74	Wearing apparel industry	721	Alcohol beverage distillery
93	Wildland	721	Alcohol distilling: industrial
14	Women's club	721	Alcohol plant
75	Wood industry	846	Alcoholic beverage storage
85	Wood storage	723	Ale mfg
11	Zoo	846	Ale storage

**A-4-7.5 Specific Property Use.** The following alphabetical list is based on the logic and definitions presented in 4-7.5 for specific property use. A person using this list should review the classification assigned in 4-7.5 to ensure that there are no qualifications on the definition of the term.

711	Abattoir	761	Alkali mfg
687	Abrasives plant	111	Alley: bowling
742	Academic robe mfg	758	Almanac publishing, printing
221	Academy: boarding	524	Alteration shop: garment
142	Academy: riding	772	Aluminum casting
761	Acetylene gas mfg	773	Aluminum hollowware mfg
761	Acid plant	772	Aluminum refining
764	Acrilan fiber mfg	773	Aluminum stamping
776	Adding machine mfg	772	Aluminum wire drawing
595	Addressing firm	784	Ambulance mfg, assembly
765	Adhesive mfg		Ambulatory care (see 341-343)
591	Administrative office	761	Ammonia synthesis
799	Advertising display mfg	761	Ammonium nitrate plant
754	Advertising sign mfg	864	Ammonium nitrate storage
774	Aerial cableway mfg	762	Ammunition mfg
928	Aerial tramway	552	Ammunition sales
791	Aeronautical instrument mfg	123	Amphitheater
311	Aged persons w/24-hour nursing staff	113	Amusement hall, place, booth
	Aged: personal care of (see division 25, 311 and 451-452)	773	Anchor mfg
773	Agricultural fork mfg	942	Anchorage
626	Agricultural laboratory	791	Anesthetic machine mfg
774	Agricultural machine mfg	556	Animal care center
812	Agricultural products: boxed	833	Animal feed storage: processed
813	Agricultural products: loose	813	Animal feed storage: unprocessed
818	Agricultural supply storage	719	Animal food preparation
774	Agricultural tractor mfg	715	Animal food, stock dry feed
774	Air compressor mfg	556	Animal hospital
774	Air condition mchry mfg	719	Animal medicine preparing
776	Air conditioner mfg: unit type	726	Animal oil refinery: nonedible
591	Air force office	556	Animal shop, supplies
925	Air raid shelter	663	Animal trapping, hunting
761	Air reduction	531	Antique shop
773	Air rifle mfg		Apartment (see 421-428)
786	Aircraft assembly, mfg, repair	651	Apiary
894	Aircraft freight terminal	655	Apple growing
886	Aircraft hangar	776	Appliance assembling: elec
173	Airline limousine terminal	538	Appliance repair w/o sales
973	Airplane push area	532	Appliance repair w/sales
971	Airport approach	776	Appliance repair: elec w/mfg
		532	Appliance store
		742	Apron mfg
		152	Aquarium
		594	Architect office
		123	Arena: sports

761	Argon gas mfg	575	Automobile supply store
591	Armed forces office	575	Automobile tire store
784	Armored car mfg, assembly	573	Automobile top shop
122	Armory hall	922	Automobile tunnel
582	Army and Navy store	578	Automobile washing
591	Army office	231	Automotive school
677	Arsenic mining, quarrying	743	Awning mfg
779	Arsenic processing	526	Awning store
152	Art gallery include sales	925	Awning, canopy
233	Art school	773	Axe mfg
761	Artificial color mfg: food	785	Axle mfg: cycle
742	Artificial flower mfg	784	Axle mfg: motor vehicle
738	Artificial leather mfg	743	Baby blanket mfg
791	Artificial limb mfg	787	Baby carriage mfg
761	Artificial manure mfg	742	Baby clothes mfg
799	Artist brush mfg	713	Baby food mfg: homogenized
765	Artist color mfg	712	Baby food mfg: milk base
799	Artist material mfg, excl paint	711	Bacon curing
765	Artist paint mfg	799	Badge mfg
563	Artist supply sales	773	Bag clasp mfg: base metal
688	Asbestos concrete product mfg	743	Bag mfg: burlap
688	Asbestos fiber working	746	Bag mfg: leather
678	Asbestos mining, quarrying	754	Bagatelle board mfg
688	Asbestos products plant	892	Bagged mineral prod storage
768	Asphalt impregnated paper mfg	737	Bagging cord plant
767	Asphalt mfg	716	Bakery
678	Asphalt mining, quarrying	513	Bakery sales
774	Asphalt road machine mfg	719	Baking powder mfg
	Assisted living facility (see 451-452)	824	Bale storage: jute, hemp, sisal fiber
591	Association office	823	Bale storage: silk, synthetic fiber
122	Athletic cage	822	Bale storage: wool, worsted
742	Athletic clothing mfg	821	Baled cotton storage
141	Athletic club w/o sleeping	812	Baled hay outside
	Athletic club w/sleeping (see 441-446)	855	Baled paper storage
981	Athletic field construction	774	Ball bearing mfg
798	Athletic goods mfg	747	Ball mfg: rubber or synthetic
758	Atlas mfg	123	Ball park
611	Atomic fission, fusion materials mfg	799	Ballpoint pen mfg
531	Auction house	121	Ballroom
591	Auditor's office	753	Bamboo products mfg
182	Auditorium	592	Bank
161	Automat	754	Bank furniture mfg
795	Automatic piano mfg	591	Bank: office only
784	Automobile accessory mfg	758	Banknote printing
575	Automobile accessory sales	743	Banner mfg
873	Automobile accessory storage	754	Bar furniture mfg
784	Automobile assembly plant	163	Bar: alcoholic beverage
573	Automobile body repairing, painting	557	Barber shop
882	Automobile dealer vehicle storage	561	Barber supplies store
571	Automobile filling station	781	Barge building, repairing
965	Automobile lot: sales	715	Barley milling, rolling
573	Automobile muffler shop	815	Barn
784	Automobile parts mfg	464	Barrack
873	Automobile parts storage	753	Barrel plant: wood
573	Automobile repair shop	751	Barrel stave mfg
574	Automobile salesroom	751	Barrelhead mfg
877	Automobile salvage, wrecking	677	Barytes mining, quarrying
573	Automobile seat cover shop	761	Barytes processing

773	Base metal cold pressing	776	Blanket mfg: elec
753	Basket mfg	743	Blanket mfg: nonelec
686	Batch plant: concrete or cement	771	Blast furnace
116	Bathhouse	762	Blasting agent mfg
937	Bathing beach	761	Bleach mfg
747	Bathing cap mfg	123	Bleachers for seating
771	Bathtub mfg: cast iron	735	Bleaching plant
764	Bathtub mfg: plastic	726	Blended table oil mfg
747	Battery case mfg	776	Blender mfg: elec, kitchen
776	Battery mfg	754	Blind mfg
739	Batting mill	742	Blouse mfg
672	Bauxite mine, quarry	763	Blowmolding plastics
772	Bauxite processing	595	Blueprint firm
773	Bayonet mfg		Board and care: residential (see 451-452)
937	Beach	311	Boarding care w/24-hour nursing staff
142	Beach club	431	Boarding house: 4-8 roomers
715	Bean grinding, splitting	432	Boarding house: 9-16 roomers
811	Bean storage: bulk		Boarding house: over 16 roomers (see 441-446)
774	Bearing mfg: roller, ball, needle	221	Boarding school classroom bldg
557	Beauty shop	576	Boat accessory sales
754	Bedding plant	782	Boat mfg: 65 ft and under
743	Bedspring mfg	885	Boat mooring, docking
651	Bee raising	782	Boat repair: no sales
723	Beer mfg	576	Boat sales
163	Beer parlor	885	Boat storage
846	Beer storage	885	Boathouse
742	Belt mfg, excl leather	143	Boating club
746	Belt mfg: leather	782	Boatyard: vessels 65 ft and under
747	Belting mfg: rubber or synthetic	753	Bobbin mfg
744	Belting plant: canvas	785	Body mfg: cycle
732	Belting plant: cloth	784	Body mfg: motor vehicle
744	Belting: leather tannery	573	Body repair shop: motor vehicle
767	Benzene mfg	672	Bog ore mining, quarrying
141	Bet taking shop	717	Boiled sweets mfg
723	Beverage mfg: beer	688	Boiler gasket mfg
724	Beverage mfg: nonalcoholic	614	Boiler house
721	Beverage mfg: spirits	771	Boiler mfg: cast iron
722	Beverage mfg: wines	781	Boiler mfg: marine
846	Beverage storage: alcoholic	688	Boiler packing mfg: asbestos
832	Beverage storage: soft drink	774	Boilerhouse machine mfg
514	Beverage store	773	Bolt mfg: metal
785	Bicycle assembly and repair	612	Bomb assembly: nuclear
552	Bicycle sales and repair	773	Bomb case mfg
871	Billet storage	762	Bomb filling
112	Billiard center	925	Bomb shelter
754	Billiard table mfg	726	Bone oil refining
774	Binder machine mfg	799	Bone products mfg
758	Binder mfg: paper, cardboard	719	Bone scraping, crushing
758	Bindery, book	758	Book bronzing, gilding, edging
113	Bingo hall	758	Book mfg: blank
792	Binocular mfg	758	Book publishing, printing
548	Binocular sales	758	Book repair
621	Biological laboratory	541	Book store: new, used
719	Birdseed mixing	758	Bookbinding
716	Biscuit mfg	774	Bookbinding machine mfg
674	Bituminous sand operation	141	Bookmaker place: gambling
773	Blacksmith shop	774	Boot mchry mfg
758	Blank book mfg	741	Boot mfg, excl vulcanized rubber

747	Boot mfg: vulcanized rubber	773	Buckle mfg: base metal
523	Boot repair	794	Buckle mfg: precious metal
753	Boot tree mfg	851	Builders' supply warehouse
523	Bootblack stand	688	Building face stone works
924	Booth: toll	752	Building mfg: portable wooden
732	Bootlace mfg: braided cotton	755	Building paper mfg: fiber
733	Bootlace mfg: braided wool	751	Building products mfg: wood
734	Bootlace mfg: braided, mixed fibers	555	Building supply store
677	Borate minerals mining, quarrying	835	Bulk coolers
761	Borate minerals processing	833	Bulk food stuffs
774	Boring machine mfg	843	Bulk LP-Gas plant
756	Bottle cap seal mfg	839	Bulk molasses
683	Bottle plant	841	Bulk plant: petroleum
683	Bottle stopper, glass mfg	774	Bulldozer mfg
832	Bottled food product storage	753	Bung mfg
774	Bottling mchry mfg	466	Bunkhouse
724	Bottling plant	753	Buoy mfg: cork
753	Bowl mfg: wood	743	Burlap bag mfg
111	Bowling establishment	824	Burlap storage, bales, bags
552	Bowling shop	784	Bus mfg, assembly
773	Box mfg: metal	883	Bus parking
756	Box mfg: paper	574	Bus sales
753	Box mfg: wood	925	Bus stop shelter
141	Boys Club	173	Bus terminal
742	Brace suspender mfg	232	Business school: commercial
732	Braid mfg: cotton	712	Butter mfg
734	Braid mfg: mixed fibers	835	Butter storage
733	Braid mfg: wool or worsted	799	Button mfg
737	Braided cord mfg	116	Cabana
688	Brake lining mfg	754	Cabinet shop
785	Brake mfg: cycle	774	Cable car mfg
784	Brake mfg: motor vehicle	775	Cable mfg: insulated electric
721	Brandy mfg	634	Cable terminal: telephone
773	Brass hollowware	634	Cable: telephone, telegraph
772	Brass refining	161	Café
773	Brass stamping	161	Cafeteria
772	Brass wire drawing	122	Cage: athletic
742	Brassiere mfg	716	Cake mfg
716	Bread mfg	719	Cake mix mfg
715	Breakfast food mfg	776	Calculating machine mfg
723	Brewery	792	Camera equipment plant
774	Brick making machine mfg	792	Camera mfg
682	Brick mfg: glass	553	Camera store
681	Brick mfg: heat resisting	784	Camping trailer mfg
681	Brick plant: nonglass	935	Campsite w/utilities
921	Bridge	773	Can mfg: metal
676	Brine pit	726	Candle mfg
768	Briquette mfg	726	Candle plant
895	Briquette storage	717	Candy mfg
773	Bronze hollowware	513	Candy shop
772	Bronze refining	753	Cane container, products mfg
773	Bronze stamping	717	Cane processing (sugar or beet)
772	Bronze wire drawing	832	Canned food product storage
799	Broom mfg	713	Cannery: fruit, vegetable
931	Brush growth outdoors	714	Cannery: seafood
799	Brush mfg	744	Canvas belting plant
773	Bucket mfg: metal	743	Canvas goods mfg
753	Bucket mfg: wood	526	Canvas goods store

826	Canvas storage	762	Cellulose nitrate plastic mfg
742	Cap or hat mfg	762	Cellulose nitrate plastic reclaiming
591	Capitol building	685	Cement mill, plant
774	Capstan mfg	892	Cement storage
573	Car body repairing, painting	934	Cemetery
573	Car muffler shop	591	Central forces office
573	Car repair shop	634	Central office: telephone
573	Car seat cover shop	675	Ceramic clay extraction from earth
573	Car top shop	716	Cereal filler mfg
922	Car tunnel	715	Cereal plant
578	Car washing	773	Chain mfg: metal w/o rollers
717	Caramel mfg	774	Chain mfg: metal w/rollers
768	Carbon black plant	754	Chair mfg: any material
895	Carbon black storage	928	Chairlift
768	Carbon mfg	675	Chalk extraction from earth
799	Carbon paper plant	688	Chalk product mfg
732	Carbonizing cotton	942	Channel
687	Carborundum wheels mfg	131	Chapel: church
784	Carburetor mfg: motor vehicle	134	Chapel: funeral
774	Card can mfg for textile machine	661	Charcoal burning in forest
756	Card mfg: index	768	Charcoal mfg
774	Cardboard box machine mfg	768	Charcoal processing
756	Cardboard box or file mfg	895	Charcoal storage
732	Carding cotton	784	Chassis mfg: motor vehicle
562	Carpenter equipment sales	798	Checkerboard mfg
796	Carpet cleaning, dyeing	712	Cheese factory: natural, processed
826	Carpet storage	742	Chefs' clothing mfg
536	Carpet store	621	Chemical laboratory
732	Carpet, rug mfg: cotton	761	Chemical mfg: general
734	Carpet, rug mfg: mixed fibers	677	Chemical mining
733	Carpet, rug mfg: wool	761	Chemical salts mfg
516	Carry-out food store	861	Chemical storage: basic industrial
756	Carton mfg	862	Chemical storage: hazardous
855	Carton storage	798	Chess set mfg
762	Cartridge filling	717	Chewing gum mfg
762	Cartridge works	725	Chewing tobacco mfg
773	Carving fork, knife mfg	211	Child day care: 4 hrs or less
773	Casement window mfg: metal	491	Children's playhouse
773	Cash box mfg	567	Chimney cleaning firm
776	Cash register mfg	681	Chimney liner mfg
144	Casino	681	Chimney pipes, clay mfg
753	Cask head mfg	684	China decorating, repair, mfg
753	Cask mfg	684	China ornaments mfg
753	Casket mfg	684	China pottery mfg
876	Casket storage and display: metal	544	China shop
852	Casket storage and display: wood	893	China storage
771	Cast iron products mfg	593	Chiropodist office
726	Castor oil refining	593	Chiropractor office
584	Catalogue store	773	Chisel mfg
719	Catering	717	Chocolate factory
131	Cathedral	758	Christmas card printing
776	Cathode ray tube mfg	131	Church
651	Cattle raising	133	Church meeting hall
776	Ceiling fixture mfg: elec	591	Church office building
361	Cell block: prison for men	544	Church supply store
362	Cell block: prison for women	722	Cider mfg: hard
925	Cellar: cyclone	724	Cider mfg: soft
762	Cellulose nitrate plastic fabricating	753	Cigar box mfg

725	Cigar mfg	717	Cocoa butter mfg
838	Cigar storage	717	Cocoa processing
542	Cigar store	739	Coconut fiber spinning, weaving
746	Cigarette case mfg	726	Coconut oil refining
755	Cigarette paper mfg	726	Cod liver oil refining
725	Cigarette plant	655	Coffee growing
838	Cigarette storage	715	Coffee mfg: instant
726	Cinnamon oil mfg	715	Coffee roasting
775	Circuit breaker mfg	753	Coffin mfg
773	Cistern mfg	876	Coffin storage & display: metal
771	Cistern mfg: cast iron	852	Coffin storage & display: wood
141	City club	794	Coin mfg
616	City gas mfg	746	Coin purse mfg
591	City hall, office bldg	564	Coin-operated dry cleaning
633	Civil Defense communications center	564	Coin-operated laundry
714	Clam packing	739	Coir mat mfg
675	Clay extraction from earth	768	Coke by-products plant
681	Clay flooring tile mfg	768	Coke mfg
893	Clay products storage	616	Coke oven in gas works
681	Clay roofing tile mfg	771	Coke oven in iron, steel plant
681	Clay screening, preparing	895	Coke storage
743	Cleaning cloth mfg	835	Cold storage
742	Clerical vestment mfg	742	Collar mfg
341	Clinic	926	Collection shed (box)
793	Clock mechanism, part mfg	241	College classroom bldg
793	Clock mfg	461	College dormitory
741	Clog footwear mfg	221	College preparatory school: boarding
732	Cloth belting plant	215	College preparatory school: day
738	Cloth coating processes	783	Colliery rail tub mfg
825	Cloth storage	774	Colliery winding gear mfg
522	Clothing accessory sales	765	Color mfg: artists
524	Clothing alteration shop	774	Comb mfg, for textile machine
742	Clothing plant	732	Combing cotton
796	Clothing repair	841	Combustible liquids tank storage
521	Clothing sales, rental	862	Commercial explosives storage
742	Clothlining mfg	719	Commercial kitchen
141	Club: city	758	Commercial lithographing
142	Club: country	758	Commercial printing
162	Club: night	232	Commercial school
143	Club: yacht, boating	591	Commodity broker, exchange
785	Clutch mfg: cycle	739	Coconut fiber spinning, weaving
784	Clutch mfg: motor vehicle	726	Coconut oil refining
768	Coal distillation	776	Communication equipment
671	Coal drying	241	Community college classroom building
671	Coal mining	534	Compact disc (CD) store
767	Coal oil mfg	774	Composing room equip mfg
671	Coal prospecting	821	Compress: cotton
895	Coal storage	774	Compressor mfg
768	Coal tar oils mfg	644	Compressor station: gas
742	Coat mfg	635	Computer center
755	Coated paper mfg	776	Computer mfg: elec
738	Coating cloth	545	Computer sales
688	Coating paper w/abrasives	712	Concentrates: dairy
768	Coating paper w/asphalt, tar	182	Concert hall
799	Coating paper w/carbon	686	Concrete batch plant
792	Coating paper w/sensitizer	681	Concrete block mfg
523	Cobbling	774	Concrete mixer mfg
721	Cocktail mfg	686	Concrete mixing plant

688	Concrete pipe mfg	821	Cotton storage: bales
686	Concrete ready-mix plant	731	Cottonseed house
719	Condiment mfg	726	Cottonseed oil plant
761	Confectioners' color mfg	811	Cottonseed storage: bulk
513	Confectionery sales	741	Counter shoe mfg
574	Construction equipment sales	743	Counterpane mfg
884	Construction mchry storage	142	Country club
981	Construction site	811	Country grain elevator
591	Consultant's office	513	Country store
594	Consulting engineers office	591	County office
773	Container mfg: metal	361	County workhouse: men
756	Container mfg: paper	362	County workhouse: women
761	Continuous filament yarn mfg	783	Coupler mfg: automatic railroad
594	Contractor's office: permanent	773	Coupling mfg: metal
808	Contractor's shed	155	Court house
774	Contractors' machine mfg	743	Cover mfg
311	Convalescent care w/24-hour nursing staff	651	Cow raising
465	Convent	714	Crab packing
928	Conveyor	773	Crane hook mfg
774	Conveyor mfg	775	Crane mfg: elec
716	Cookie mfg	774	Crane mfg: nonelec
751	Cooperage stock mfg	884	Crane storage: mobile
753	Coopering	753	Crate mfg: wood
773	Copper hollowware mfg	774	Crawler tractor mfg
672	Copper mine, quarry	765	Crayon mfg
772	Copper refining	712	Creamery
773	Copper stamping, cold pressing	591	Credit company office
772	Copper wire drawing	134	Crematorium
775	Cord mfg: insulated electric	751	Creosote impregnating
737	Cordage plant	811	Crib corn
721	Cordial mfg	655	Crops
662	Cordwood storage	681	Crucible mfg: fireclay, graphite
753	Cork grinding	767	Crude oil processing
753	Cork plant	674	Crude oil storage at well
753	Cork products mfg	674	Crude oil well, extracting
811	Corn crib	842	Cryogenic gas storage
726	Corn oil refining	776	Crystal mfg: elec
715	Corn processing	711	Curing bacon
232	Correspondence school	114	Curling rink
756	Corrugated paper fabricating	796	Curtain cleaning, dyeing
755	Corrugated paper mfg	743	Curtain mfg
742	Corset mfg	526	Curtain shop
766	Cosmetic mfg	747	Cushion mfg: rubber or synthetics
866	Cosmetic storage	682	Cut glass mfg
561	Cosmetic supply store	773	Cut nail mfg
544	Costume jewelry sales	741	Cut sole mfg
742	Costume mfg	773	Cutlery mfg: household
799	Costume novelties, jewelry mfg	791	Cutlery mfg: surgical, dental
521	Costume rental store	544	Cutlery store
732	Cotton bag mfg	774	Cutting machine mfg
821	Cotton compress storage	785	Cycle mfg
735	Cotton finishing	552	Cycle shop
731	Cotton gin	925	Cyclone cellar
732	Cotton mill: cloth or yarn	761	Cyclopropane gas mfg
732	Cotton mill: full process	776	Dairy appliance mfg: elec
732	Cotton mill: part process	712	Dairy bottling/cartoning
732	Cotton mill: reworking	774	Dairy machinery mfg: nonelec
737	Cotton rope, cord mfg	515	Dairy quick-freeze store



515	Dairy store	766	Disinfectant mfg: pharmaceutical
121	Dance hall	687	Disk mfg: grinding, abrasive
233	Dance school	754	Display case mfg
775	Dashboard instrument mfg	768	Distillation: coal
756	Data processing card mfg	768	Distillation: coal tar
635	Data processing center	767	Distillation: petroleum tar
776	Data processing machine mfg	721	Distillery: alcohol
799	Data stamp mfg	646	District heating system
717	Date mfg: stuffed	754	Divan bed mfg
252	Day care for 7 to 12 persons	961	Divided highway
251	Day care for less than 7 persons	898	Dock
253	Day care for over 12 persons	885	Dock for boats
	Day nursery school over 4 hours (see 251-253)	342	Doctor office — over 3 patients
211	Day nursery school: 4 hrs or less	593	Doctor's office
773	Deed box mfg	636	Document center
718	Deep-fat frying	798	Doll mfg
591	Defense forces office	682	Domestic glassware mfg
896	Defense storage	684	Domestic pottery, china mfg
776	Dehumidifier mfg: unit type	753	Domestic woodware mfg
713	Dehydration plant	773	Door frame mfg: metal
516	Delicatessen	773	Door mfg: metal
981	Demolition site: other than structure	751	Door mfg: wood
791	Dental supply mfg	751	Door or window screen mfg: wood
593	Dental surgeons office		Dormitory-type hotel (see 441-446)
342	Dentist office — over 3 patients	466	Dormitory: bunk house
593	Dentists office	462	Dormitory: fraternity or sorority
891	Department store storage	464	Dormitory: military
581	Department store w/furniture	463	Dormitory: nurses' quarters
583	Department store w/o furniture	465	Dormitory: religious
174	Depot: railroad, street level	461	Dormitory: school, college
647	Desalting plant	716	Doughnut mfg
233	Designers' school	773	Drag mfg: metal
364	Detention camp: men	774	Dragline excavator mfg
363	Detention home: juvenile	981	Drainage project: land
362	Detention home: women	743	Drapery mfg
726	Detergent mfg	526	Drapery store
869	Detergent storage	771	Drawing mill: ferrous
762	Detonator mfg	541	Drawing supply store
321	Developmental disability — limited care	981	Dredging other than mining
621	Diagnostic laboratory	742	Dress mfg
794	Diamond cutting	742	Dressing gown mfg
544	Diamond sales	524	Dressmaking shop
796	Diaper service plant	776	Drill mfg: elec
776	Dictating equipment mfg	674	Drilling for oil or gas
538	Dictating equipment repair w/o sales	775	Drink mchry mfg
532	Dictating equipment sales	164	Drive-in eating place
772	Die casting	184	Drive-in theater
758	Die stamping: paper	233	Driving school
774	Diesel engine mfg	773	Drop forge metal pieces mfg
161	Diner	774	Drop hammer machine mfg
161	Dining hall	773	Drop stamped metal pieces mfg
162	Dinner theater	322	Drug abuse center — limited care
758	Directory publishing, printing		Drug abusers: personal care of (see 322 and 451-452)
964	Dirt road	582	Drug store: no pharmacist
633	Disaster control center	543	Drug store: pharmacist on duty
583	Discount store over 930 m <sup>2</sup>	766	Drugs mfg
582	Discount store under 930 m <sup>2</sup>	866	Drugs storage
761	Disinfectant mfg: commercial	773	Drum mfg: metal

753	Drum mfg: wood	776	Electric socket mfg
566	Dry cleaning pick-up shop	776	Electric stove mfg
796	Dry cleaning plant	642	Electric substation
564	Dry cleaning: self-service	875	Electric supply storage
781	Dry dock	776	Electric switch mfg
825	Dry goods storage	775	Electric switchgear mfg
526	Dry goods store	776	Electric tool mfg
761	Dry ice mfg	775	Electric traction motor mfg
776	Dryer mfg: domestic	775	Electric transmission equip mfg
811	Dryer: corn, grain	642	Electric transmission system
865	Drying oil storage	642	Electric vault
	Dump (see 911-915)	791	Electro-medical equipment mfg
883	Dump truck storage	774	Electrode mfg: welding
742	Dungaree mfg	791	Electronic control device mfg
595	Duplicating firm	625	Electronic laboratory
776	Duplicating machine mfg	791	Electronic measuring device mfg
799	Duplicator mfg: not machine	776	Electronic navigational aid mfg
774	Dust extraction mchry mfg	545	Electronic specialty store
412	Dwelling: 1 family, seasonal use	682	Electronic tube, glass envelope
411	Dwelling: 1 family, year- round use	758	Electrotyping: commercial
414	Dwelling: 2 family, year- round use	757	Electrotyping: newspaper or magazine
	Dwelling: over 2 units (see 421-428)	213	Elementary school
761	Dye intermediates mfg	176	Elevated railway station
774	Dye machine mfg: textile	921	Elevated structure
735	Dyeing plant: textile	775	Elevator mfg: elec
774	Earth-moving machine mfg	774	Elevator mfg: nonelec
684	Earthenware decorating, repair, mfg	816	Elevator: grain
893	Earthenware storage	799	Emblem mfg
883	Earthmoving equipment storage	794	Emerald cutting
711	Edible fat mfg	633	Emergency communications center
719	Egg processing	341	Emergency medical clinic
651	Egg production	687	Emery wheel mfg
732	Elastic mfg: cotton	765	Enamels mfg
734	Elastic mfg: mixed, other fibers	784	Engine assembly: motor vehicle
733	Elastic mfg: wool or worsted	688	Engine gasket mfg: asbestos
763	Elastomers mfg: synthetic	786	Engine mfg: aircraft
776	Electric appliance mfg	774	Engine mfg: industrial
538	Electric appliance repair w/o sales	774	Engine mfg: marine (see 781-782)
532	Electric appliance repair w/sales	784	Engine mfg: motor vehicle
532	Electric appliance sales	688	Engine packing mfg: asbestos
875	Electric appliance storage	786	Engine repair: aircraft
791	Electric control device mfg	774	Engine repair: industrial
775	Electric distribution equip mfg		Engine repair: marine (see 781-782)
642	Electric distribution system	573	Engine repair: motor vehicle
775	Electric equipment assembling	774	Engine test cell
615	Electric generating plant	594	Engineering office
625	Electric laboratory	561	Engineering supply sales
776	Electric lamp mfg	774	Engineers' tools mfg: metal
776	Electric light mfg: all types	794	Engraving precious metal
775	Electric mchry mfg	758	Engraving printing plates
776	Electric mchry repairs	774	Envelope machine mfg
874	Electric mchry storage	756	Envelope mfg
791	Electric measuring instrument mfg	513	Epicure shop
775	Electric motor mfg	775	Escalator mfg
776	Electric plug mfg	726	Essential oil mfg
791	Electric recording instrument mfg	758	Etching printing plates
573	Electric repair shop: motor vehicle	721	Ethyl alcohol distilling
776	Electric sign mfg	774	Excavating machine mfg

774	Excavator mfg	771	Ferro-chrome mfg
751	Excelsior mfg	772	Ferro-molybdenum mfg
853	Excelsior storage	772	Ferro-silicon mfg
591	Exchange, clearing house	772	Ferro-tungsten mfg
634	Exchange: telephone, telegraph	177	Ferry terminal
122	Exhibit hall	761	Fertilizer mixing, bagging
762	Explosive mfg	554	Fertilizer sales
558	Explosive sales: retail	818	Fertilizer storage
862	Explosive storage	864	Fertilizer storage
591	Exporter's office	755	Fiber building paper mfg
122	Exposition hall	734	Fiber mfg: staple
567	Exterminator firm	764	Fiber mfg: synthetic
724	Extract mfg: flavoring	853	Fiber products storage
763	Extruding plastics	756	Fiberboard packing case mfg
763	Extrusion compounds mfg: plastic	753	Fiberboard plant
774	Extrusion machine mfg	853	Fiberboard storage
791	Eye mfg: artificial	853	Fiberglass insulation storage
548	Eyeglass fitting	685	Fibro cement mfg
741	Fabric footwear	931	Field
732	Fabric mfg: cotton	655	Field crop
734	Fabric mfg: mixed, other fibers	122	Field house
733	Fabric mfg: wool or worsted	756	File mfg
739	Fabric waste recovering	756	File mfg: cardboard
774	Fabricated steel mfg: industrial	773	File mfg: insulated
141	Faculty club	754	Filing cabinet mfg
123	Fairground grandstand	571	Filling station: gasoline, public
925	Fallout shelter	577	Filling station: marine
776	Fan mfg: unit type	572	Filling station: vehicle fuel, private
655	Farm crop	186	Film exchange
574	Farm implement sales	792	Film fabrication: photographic
818	Farm implement storage	797	Film processing
811	Farm silo	186	Film repairing, renovating
513	Farm stand	186	Film screening studio
818	Farm store storage	868	Film storage: photographic
466	Farm workers' barrack	116	Filter area: swimming pool
591	Fashion designer's office	743	Filter cloth mfg
726	Fat distillation: nonedible	647	Filtration plant: water
711	Fat refining: edible	761	Fine chemicals mfg
711	Fat rendering: edible	827	Finished leather goods storage
726	Fat splitting: nonedible	867	Finished rubber products storage
754	Feather bed mfg	826	Finished textile storage
754	Feather products mfg	852	Finished wood products storage
592	Federal reserve bank	735	Finishing plant: textile
811	Feed storage: bulk	633	Fire alarm headquarters
818	Feed store	776	Fire alarm mfg, include nonelec
715	Feed: animal or poultry	633	Fire alarm system: municipal
745	Fellmongery	633	Fire communications center
742	Felt hat mfg	774	Fire control device mfg
732	Felt making: cotton	591	Fire department administrative office
734	Felt making: mixed fibers	784	Fire fighting vehicles mfg
733	Felt making: wool or worsted	888	Fire hall
745	Felt mfg: hair	751	Fire retardant impregnating plant
733	Felt mfg: pressed wool	888	Fire station
733	Felt needleloom mfg	681	Fireclay sanitary ware mfg
853	Felt storage	773	Fireplace tool mfg
738	Feltbase mfg	662	Firewood storage
751	Fence mfg: wood	762	Fireworks mfg
754	Fender mfg: fireplace	558	Fireworks sales, stands

862	Fireworks storage	834	Food locker plant
714	Fish canning, processing	774	Food mchry mfg
665	Fish farms	719	Food processing: animal
665	Fish hatchery	832	Food product storage: canned, bottled
726	Fish oil refining	833	Food product storage: loose or bagged
714	Fish packing, preserving	831	Food product storage: packaged, dry
714	Fish salting, drying, processing	511	Food store over 930 m <sup>2</sup>
513	Fish store	512	Food store under 930 m <sup>2</sup>
773	Fishhook mfg	513	Food store: specialty
142	Fishing club	832	Food stuffs: processed, canned, bottled
737	Fishing net mfg	833	Food stuffs: processed, loose
611	Fission material mfg	712	Food with milk base
611	Fission products handling	593	Foot care center
754	Fixture mfg: furniture	747	Footwear mfg: rubber, vulcanized
743	Flag mfg	661	Forestry
944	Flammable gas loading area for ships	773	Forged metal pieces mfg: drop
944	Flammable liquid loading area for ships	774	Forging machine mfg
645	Flammable liquid pipeline	773	Fork mfg: carving
841	Flammable liquid tank storage	794	Fork mfg: precious metal
762	Flare mfg	774	Forklift truck mfg
776	Flashlight mfg	771	Foundry: ferrous
	Flat (see 421-428)	772	Foundry: nonferrous
682	Flat glass mfg	799	Fountain pen mfg
773	Flat spring mfg	785	Frame mfg: cycle
725	Flavoring extract mfg	141	Fraternal club w/o sleeping
737	Flax rope, cordage product mfg	462	Fraternity house
824	Flax storage: bales, bags	834	Freeze locker
734	Flax thatching	776	Freezer mfg: unit type
883	Fleet parking	783	Freight car mfg: railway
776	Flexible shaft tool mfg	898	Freight pier
771	Flexible tube mfg: iron or steel	894	Freight terminal
632	Flight control center	718	French frying potatos
971	Flight, flying	765	French polish mfg
753	Float mfg: cork	834	Frozen food locker
945	Flood control culvert	713	Fruit canning
567	Floor cleaning firm	713	Fruit dehydrating, quick-freezing
536	Floor covering store	661	Fruit gathering: wild
681	Floor tile mfg: clay	655	Fruit growing
738	Floor tile mfg: linoleum	713	Fruit juice mfg
738	Flooring mfg: linoleum	713	Fruit mfg: candied peel
747	Flooring mfg: rubber	717	Fruit mfg: crystallized
751	Flooring mfg: wood	657	Fruit packing as picked
	Flop house (see 441-446)	713	Fruit ripening
547	Florist shop	513	Fruit store
715	Flour milling, blending	776	Frying pan mfg w/heating element
837	Flour storage: bulk	773	Frying pan mfg w/o heating element
661	Flower gathering: wild	717	Fudge mfg
547	Flower growing	841	Fuel dispensing, bulk
799	Flower plants: artificial	768	Fuel mfg: packaged
547	Flower sales	762	Fuel mfg: rocket
776	Fluorescent fixture mfg	767	Fuel oil mfg
682	Fluorescent tube mfg	784	Fuel pump mfg: motor vehicle
677	Fluorspar ore mining, quarrying	134	Funeral chapel, parlor
689	Fluorspar ore processing	742	Fur apparel mfg
747	Foam rubber mfg	742	Fur hat mfg
747	Foam rubber processing	745	Fur mat mfg
764	Foamed plastics fabrication	742	Fur muff mfg
717	Fondant mfg	741	Fur product mfg: footwear

742	Fur product mfg: wearing apparel	616	Gas plant: manufactured, fuel
745	Fur product plant	644	Gas purification station
828	Fur product storage	681	Gas retort mfg
745	Fur rug mfg	983	Gas utility right of way
745	Fur sorting, dressing	774	Gas welding machinery mfg
828	Fur storage	674	Gas well
525	Fur store	861	Gases, industrial nonhazardous
663	Fur trapping, hunting	862	Gases, industrial, hazardous
651	Fur-bearing animal raising	688	Gasket mfg
774	Furnace mfg	774	Gasoline engine mfg
532	Furnace sales	767	Gasoline mfg
754	Furniture mfg	572	Gasoline service station: private
791	Furniture mfg: surgical, dental	571	Gasoline service station: public
537	Furniture repair shop	841	Gasoline storage
852	Furniture storage	842	Gasometer
531	Furniture store	974	Gateway: aircraft
743	Furniture upholster	774	Gauge mfg: metal
525	Furrier	784	Gear box mfg: motor vehicle
762	Fuse mfg: explosive	785	Gear mfg: cycles
611	Fusion material mfg	765	Gelatin mfg
611	Fusion products handling	678	Gems: mining, natural
741	Gaiter mfg	591	General business office
152	Gallery: art, include sales	891	General storage warehouse
747	Galoshes mfg	615	Generating plant: electric
144	Gambling place	775	Generator mfg
711	Game curing, salting	544	Gift shop
711	Game dressing, processing	721	Gin mfg
798	Game mfg	731	Gin: cotton
663	Game propagation	141	Girls club
551	Game store: recreational	683	Glass container mfg
113	Games of chance for amusement	682	Glass cutting
144	Gaming place	682	Glass fiber fabricating, mfg
574	Garage with motor vehicle sales	682	Glass fiber processing
883	Garage: city vehicle parking	682	Glass product mfg
882	Garage: commercial parking	893	Glass products storage
883	Garage: fleet parking	893	Glass storage
573	Garage: repair	544	Glass store
881	Garage: residential parking	792	Glasses mfg include frame
648	Garbage disposal plant	682	Glassware mfg
648	Garbage reduction plant	786	Glider mfg, assembly, repair
655	Garden	744	Glove leather tannery
	Garden apartment (see 421-428)	736	Glove mfg: knitted
737	Garden net mfg	742	Glove mfg: leather
547	Garden shop	747	Glove mfg: rubber
554	Garden supplies store	765	Glue mfg
774	Garden tractor mfg	767	Glycerine mfg
826	Garment storage	794	Gold assaying, smelting
742	Garter mfg	672	Gold mine, quarry
532	Gas appliance sales	775	Golf cart mfg: elec
774	Gas compressor mfg	142	Golf club
774	Gas cutting mchry mfg	981	Golf course construction
776	Gas discharge lamp mfg	552	Golf shop
982	Gas field	513	Gourmet shop
981	Gas main construction	758	Government printing office
616	Gas mfg: fuel	213	Grade school
761	Gas mfg: industrial	774	Grader machine mfg
644	Gas pipeline	816	Grain elevator
644	Gas pipeline compressor station	715	Grain mill

811	Grain stack	773	Hand tool mfg
811	Grain storage: bulk	746	Handbag mfg
811	Grainary	742	Handkerchief mfg
123	Grandstand	753	Handle mfg: hardwood
675	Granite quarrying, mining	785	Handlebar mfg: cycle
688	Granite working	886	Hangar
688	Graphite products mfg	826	Hanging garment storage
773	Grapnel mfg	773	Hardware mfg
675	Gravel extraction from earth	873	Hardware storage
964	Gravel road	533	Hardware store
931	Grazing land	753	Hardwood turning plant
845	Grease storage in containers	746	Harness mfg
547	Greenhouse	774	Harrow mfg, include self-propelled
751	Greenhouse mfg: wood	742	Hat mfg
758	Greeting card mfg	796	Hat reblocking, repair
687	Grinding abrasives mfg	522	Hat store
687	Grindstone mfg	651	Hatchery: poultry
715	Grist mill	745	Hatters fur mfg
831	Grocery storage: crated, boxed	655	Hay field
833	Grocery storage: loose, bagged	811	Hay stack
511	Grocery store over 930 m <sup>2</sup>	815	Hay storage in barn
512	Grocery store under 930 m <sup>2</sup>	811	Hay storage: bulk, not in barn
677	Guano harvesting	818	Hay store
709	Guano processing		Hazardous materials waste disposal (see 913-915)
661	Gum gathering: natural	141	Health club
717	Gum mfg: chewing	766	Health salt mfg
762	Gun cotton mfg	646	Heat transfer system
773	Gun mfg	784	Heater mfg: motor vehicle
552	Gun shop	776	Heating apparatus mfg: elec
762	Gunpowder works	774	Heating mchry mfg
747	Gutta-percha products	646	Heating: district, steam
121	Gymnasium	574	Heavy equipment sales
798	Gymnastic equipment mfg	611	Heavy water plant
688	Gypsum board mfg	172	Heliport
678	Gypsum mining, quarrying	172	Helistop
688	Gypsum products mfg	343	Hemodialysis unit
892	Gypsum storage	735	Hemp finishing
522	Haberdashery store	734	Hemp spinning: soft
776	Hair clipper mfg	824	Hemp storage: bales, bags
766	Hair dressing mfg	737	Hemp, cord, rope, cable mfg
557	Hair dressing shop	661	Herb gathering: wild
733	Hair felt mfg: pressed	545	Hi-Fi store
745	Hair product plant	827	Hide storage
828	Hair product storage	744	Hide tanning, dressing
766	Hair tonic mfg	215	High school
799	Hairnet mfg	981	Highway construction
182	Hall: concert	921	Highway overpass
121	Hall: dance	961	Highway: limited access
161	Hall: dining	153	Historical building
888	Hall: fire	551	Hobby shop
141	Hall: lodge	123	Hockey rink in arena
112	Hall: pool	114	Hockey rink: fixed use
182	Hall: public	773	Hoe mfg
711	Ham curing	651	Hog raising
774	Hammer machine mfg	775	Hoist mfg: elec
773	Hammer mfg	774	Hoist mfg: nonelec
737	Hammock mfg	681	Hollow tile mfg
753	Hamper mfg	776	Hollowware mfg w/heating element

773	Hollowware mfg w/o heating element	648	Incinerator: municipal
311	Home for aged w/24-hour nursing staff	756	Index card mfg
567	Home maintenance firm	798	Indoor game mfg
533	Home repair supply sales	591	Industrial administrative office
134	Home: funeral	862	Industrial chemical storage: hazardous
713	Honey processing	861	Industrial chemical storage: nonhazardous
651	Honey production, apiary	633	Industrial communications center
784	Hood mfg: motor vehicle	761	Industrial gas mfg
742	Hood mfg: wearing apparel	861	Industrial gases: nonhazardous
773	Hook mfg	862	Industrial hazardous chemical storage
715	Hop kiln, curing	591	Industrial loan institution
775	Horn mfg: elec	984	Industrial plant yard
651	Horse barn/stable	774	Industrial tractor mfg
739	Horsehair spinning, weaving	231	Industrial training school
773	Horseshoe mfg	774	Industrial valve mfg
764	Hose mfg: plastic	742	Infantwear mfg
747	Hose mfg: rubber	331	Infirmiry: hospital type
736	Hosiery mfg: knitted	771	Ingot mold mfg: cast iron
522	Hosiery store	871	Ingot storage
332	Hospice	765	Ink mfg: printers
331	Hospital	765	Ink mfg: writing
561	Hospital supply sales	799	Ink pad mfg
547	Hot house	865	Ink storage
773	Hot pressed metal pieces mfg	163	Inn w/o sleeping accommodations
	Hotel (see 441-446)		Inn w/sleeping (see 441-446)
754	Hotel furniture mfg	741	Inner sole mfg
361	House of correction: men	747	Inner tube mfg
362	House of correction: women	761	Inorganic chemical mfg
412	House: 1 family, seasonal use	761	Insecticides mfg
411	House: 1 family, year-round use	791	Instrument mfg: electric, electronic
754	Household furniture mfg	791	Instrument mfg: measuring, control
852	Household furniture storage	795	Instrument mfg: musical
	Housekeeping apartment (see 421-428)	561	Instrument sales: professional
776	Humidifier mfg: unit type	775	Insulated wire, cable mfg
663	Hunting	688	Insulation mfg: asbestos, stone
142	Hunting club	682	Insulation mfg: glass fiber
715	Husking grain	753	Insulation mfg: wood, cork, sawdust
685	Hydraulic cement mfg	684	Insulator mfg: pottery, clay, porcelain
774	Hydraulic mchry mfg	591	Insurance office
622	Hydraulics laboratory	214	Intermediate school
761	Hydrogen gas mfg	774	Internal combustion engine mfg
761	Hydrogen sulfide gas mfg	591	Investment firm office
726	Hydrogenation	771	Iron billet, bloom mfg
712	Ice cream plant	771	Iron conversion
515	Ice cream shop	771	Iron foundry
515	Ice cream stand: quick-freeze	776	Iron mfg: domestic, elec
835	Ice cream warehouse	672	Iron ore mining, quarrying
897	Ice dispenser: coin operated	771	Iron products mfg: cast
719	Ice harvesting	677	Iron pyrites mining, quarrying
897	Ice housers	761	Iron pyrites processing
719	Ice plant: mfg and natural	771	Iron smelting, refining
114	Ice skating rink	773	Iron stamping, cold pressing
897	Ice storage	871	Iron storage: basic forms
799	Identification tag mfg	771	Iron: basic products mfg
767	Illuminating oil mfg	672	Ironstone mining, quarrying
591	Importer's office	773	Ironwork mfg
682	Incandescent lamp plant	981	Irrigation project construction
648	Incinerator: industrial	774	Jack mfg

742	Jacket mfg	623	Laboratory: psychological testing
361	Jail: men	624	Laboratory: radioactive material
362	Jail: women	627	Laboratory: research, general
713	Jam mfg	732	Lace drawing, ending: cotton
765	Japan drier mfg	732	Lace mfg: cotton
744	Japanning leather	734	Lace mfg: mixed, other fibers
684	Jar mfg: earthenware	733	Lace mfg: wool or worsted
683	Jar mfg: glass	765	Lacquer mfg
713	Jelly mfg	753	Ladder mfg: wood
794	Jewelry fabricating, mfg	946	Lake
544	Jewelry shop	745	Lambskin shearing
798	Jigsaw puzzle mfg	773	Laminated spring mfg
758	Job printing	776	Lamp assembling: elec
753	Joiners' off-building site	682	Lamp bulb mfg
751	Joiners' on-building site	776	Lamp holder mfg
155	Judicial hall	776	Lamp mfg: metal, elec
164	Juice bar	773	Lamp mfg: metal, nonelec
241	Junior college classroom bldg	743	Lamp shade mfg: cloth
214	Junior high school	756	Lamp shade mfg: paper
877	Junkyard	981	Land drainage project
743	Jute bag mfg	981	Land reclaiming project
737	Jute cord plant		Landfill area (see 911-915)
737	Jute rope, cord mfg	711	Lard mfg
734	Jute spinning, sorting, weaving	711	Lard refining
824	Jute storage: bales, bags	773	Latch mfg
363	Juvenile detention home	885	Launching facility for boats
773	Keg mfg: metal	564	Laundromat
753	Keg mfg: wooden	743	Laundry bag mfg
556	Kennel	566	Laundry pick-up shop
767	Kerosene mfg	796	Laundry: commercial
776	Kettle mfg w/heating element	564	Laundry: self-service
773	Kettle mfg w/o heating element	675	Lava mining, quarrying
746	Key case mfg	933	Lawn
162	Key club	774	Lawn mower mfg
773	Key mfg	554	Lawn mower rental, sales
533	Key-lock shop	591	Lawyer's office
681	Kiln lining mfg	773	Lead hollowware
774	Kiln mfg	672	Lead mine, quarry
742	Kilt mfg	799	Lead pencil mfg
212	Kindergarten	772	Lead refining, smelting
532	Kitchen cabinet store	773	Lead stamping, cold pressing
773	Knife mfg	682	Leaded glass mfg
736	Knit wear mfg	774	Leaf sweeper mfg
736	Knitted fabric mfg	742	Leather clothing mfg
774	Knitting machine mfg: textile	546	Leather goods sales
736	Knitting: full process mill	741	Leather heel mfg
736	Knitting: part process mill	741	Leather legging mfg
764	Kodel fiber mfg	744	Leather machinery belt mfg
791	Laboratory instrument mfg	738	Leather mfg: artificial
626	Laboratory: agricultural	741	Leather product mfg: footwear
621	Laboratory: biological	742	Leather product mfg: wearing apparel
621	Laboratory: chemical	827	Leather product storage
625	Laboratory: electric, electronic	746	Leather products mfg: general
622	Laboratory: hydraulics	741	Leather sole mfg
621	Laboratory: medical	827	Leather storage
622	Laboratory: metallurgical	744	Leather tanning, dressing
623	Laboratory: personnel testing	738	Leatherette mfg
622	Laboratory: physics	791	Leg mfg: artificial



742	Legal robe mfg	412	Lodge: 1-family
741	Legging mfg	415	Lodge: 2-family
156	Legislative hall	431	Lodging house: 4-8 roomers
181	Legitimate theater	432	Lodging house: 9-16 roomers
792	Lens grinding, polishing		Lodging house: over 16 persons (see 441-446)
715	Lentil grinding, splitting	662	Log storage
923	Letter drop	856	Log storage not in forest
754	Lettering mfg: sign	662	Logging
758	Letterpress	758	Looseleaf binder mfg
151	Library	936	Lot: vacant
758	Library binder mfg	571	LP-Gas bottle filling station: public
717	Licorice mfg	843	LP-Gas bulk plant
753	Life belt mfg: cork	767	Lubricating oil mfg
775	Lift truck mfg: elec	746	Luggage mfg
774	Lift truck mfg: nonelec	546	Luggage store
776	Light bulb mfg	751	Lumber mfg
781	Lighter building: repair	555	Lumber sales: retail
773	Lighting fixture mfg	851	Lumber storage
791	Limb mfg: artificial	851	Lumberyard
688	Lime plant	164	Lunch counter
688	Lime product mfg	164	Lunchroom
892	Lime storage	713	Macaroni canning
675	Limestone quarrying, mining	716	Macaroni plant
688	Limestone working, cutting	773	Machine gun mfg
961	Limited access highway	774	Machine shop
173	Limousine terminal	774	Machine tool mfg: metal
735	Linen finishing	744	Machinery belt mfg: leather
734	Linen mill	732	Machinery belting mfg: cotton
796	Linen service plant	733	Machinery belting mfg: wool
734	Linen spinning, carding	775	Machinery mfg: elec
824	Linen storage: bales, bags	774	Machinery mfg: excl elec
544	Linen store	774	Machinery parts mfg
565	Linen supply house	776	Machinery repair: elec
742	Lingerie mfg	574	Machinery sales: motor driven
738	Linoleum mfg	874	Machinery storage: not vehicle
536	Linoleum store	884	Machinery storage: vehicle
726	Linseed oil plant	562	Machinist supply sales
763	Liquid resin mfg: synthetic	774	Machinist tool mfg
721	Liquor blending	757	Magazine publishing
723	Liquor mfg: malt	798	Magic apparatus mfg
846	Liquor storage	773	Magnesium hollowware
514	Liquor store	772	Magnesium refining, smelting
677	Lithium minerals mining	773	Magnesium stamping
779	Lithium minerals processing	772	Magnesium wire drawing
757	Lithographing	584	Mail order store
742	Livery mfg	891	Mail order warehouse
815	Livestock storage in barn	923	Mailbox
817	Livestock storage not in barn	595	Mailing firm
974	Loading ramp: aircraft	595	Mailing list sales firm
591	Loan company office	708	Maintenance shop: general
714	Lobster packing, canning	585	Mall
773	Lock mfg: mechanical	766	Malt extracts mfg
793	Lock mfg: time	723	Malt house
754	Locker mfg	771	Manhole cover mfg: cast iron
834	Locker plant	773	Manicure set mfg
783	Locomotive mfg	928	Manlift
887	Locomotive storage	616	Manufactured gas: fuel
141	Lodge hall	709	Manure processing

758	Map mounting	364	Men's detention camp
758	Map publishing, printing	321	Mental retardation — limited care
661	Maple sugaring in forest		Mentally impaired: personal care of (see division 25, 321 and 451-452)
717	Maple sugaring outside forest	891	Mercantile stock storage: nonfood
675	Marble quarrying, mining	773	Metal box mfg
688	Marble working	771	Metal casting: iron, steel
726	Margarine mfg	773	Metal cold pressing
835	Margarine storage	773	Metal fabricating
885	Marina	773	Metal furniture mfg
576	Marine accessory sales	893	Metal ore storage
781	Marine boiler mfg	872	Metal parts storage
726	Marine oil refining	773	Metal product polishing, plating
177	Marine passenger terminal	876	Metal products storage: finished
577	Marine refueling facility	771	Metal refining: iron, steel
	Marine repair (see 781-782)	773	Metal stamping mfg
576	Marine salesroom	871	Metal storage: basic forms
577	Marine service station	774	Metallurgical furnace mfg
655	Market garden	622	Metallurgical laboratory
511	Market over 930 m <sup>2</sup>	678	Mica quarrying, mining
512	Market under 930 m <sup>2</sup>	792	Microscope mfg
713	Marmalade mfg	548	Microscope sales
952	Marshalling yard	632	Microwave site
717	Marshmallow mfg	466	Migrant workers' barracks
685	Masonry cement mfg	464	Military barracks
562	Masons' supply sales	862	Military explosives storage
	Mast mfg (see 781-782)	221	Military school classroom bldg
753	Mat mfg: cork	896	Military stores
732	Mat mfg: cotton	712	Milk bottling
734	Mat mfg: mixed, other fibers	651	Milk cooling shed
758	Mat mfg: printing	651	Milk house
747	Mat mfg: rubber or synthetic	774	Milk machine mfg
733	Mat mfg: wool or worsted	712	Milk mfg: condensed, evaporated
762	Match plant	712	Milk mfg: powdered
775	Materials handling equip mfg: electrical	712	Milk processing
774	Materials handling equip mfg: nonelectrical	651	Milk production
331	Maternity hospital	835	Milk storage: bottled, canned
754	Mattress mfg except rubber	526	Mill outlet store
747	Mattress mfg: rubber	742	Millinery mfg
853	Mattress storage	522	Millinery store
715	Meal milling, preparation	713	Mincemeat mfg
776	Measuring apparatus mfg: elec	783	Mine rail car mfg
711	Meat dressing, curing, packing	688	Mineral grinding, processing
513	Meat shop	767	Mineral oil refining
775	Mechanical equip mfg: elec	761	Mineral pigments mfg
774	Mechanical equip mfg: nonelectrical	677	Mineral pigments mining
794	Medal mfg	892	Mineral products storage: bagged
791	Medical equipment mfg	893	Mineral products storage: packaged, non-bagged
682	Medical glassware mfg	724	Mineral water carbonating
331	Medical hospital	688	Mineral wool mfg
621	Medical laboratory	678	Mineral: mining nonmetallic
791	Medical machine mfg	677	Mining chemicals
593	Medical office	671	Mining coal
561	Medical supply sales	677	Mining fertilizer mineral
766	Medicated wine mfg	672	Mining iron ore
767	Medicinal paraffin mfg	774	Mining mchry mfg
766	Medicine mfg	751	Mining timber mfg
133	Meeting hall: church	794	Mint: money
154	Memorial structure	753	Mirror frame mfg

682	Mirror mfg	795	Musical instrument mfg
844	Missile fuel storage	534	Musical instrument sales
631	Missile launch site	719	Mustard mfg
786	Missile mfg, assembly, repair: no fuel	773	Nail mfg
131	Mission	767	Naphtha oil refining
742	Mitten mfg	743	Napkin mfg
734	Mixed fiber, full process mill	732	Narrow fabric mfg: cotton
776	Mixer mfg: domestic	734	Narrow fabric mfg: mixed fibers
752	Mobile building mfg	733	Narrow fabric mfg: wool
574	Mobile home sales	678	Natural abrasive mining
411	Mobile home: permanent family	685	Natural cement mfg
751	Mobile saw, planing mill	767	Natural gas plant
752	Modular building mfg	674	Natural gas well
717	Molasses mfg	767	Natural gasoline plant
839	Molasses, bulk	765	Natural resin grinding
763	Molded compound mfg: plastic	747	Natural rubber processing
764	Molded plastic products	591	Navy office
756	Molded pulp goods mfg	726	Neatsfoot oil refining
465	Monastery	742	Necktie mfg
794	Money mfg	774	Needle bearing mfg
792	Monocle mfg	794	Needle mfg: record
154	Monument	773	Needle mfg: sewing
688	Monument works	739	Needleloom carpet mfg
799	Mop mfg	739	Needleloom felt mfg
134	Morgue	776	Neon lamp mfg
591	Mortgage company	682	Neon light mfg, fabricating
134	Mortuary	776	Neon sign mfg
131	Mosque	737	Net mfg: excl hair
	Motel (see 441-446)	799	Net mfg: hair
868	Motion-picture exchange	591	News gathering agency office
797	Motion-picture film processing	591	News reporting agency office
868	Motion-picture film storage	757	Newspaper publishing
186	Motion-picture studio	755	Newsprint mfg
183	Motion-picture theater	542	Newsstand
784	Motor home mfg, assembly	742	Night clothes mfg
775	Motor mfg: elec	162	Night club
774	Motor mfg: nonelectric	742	Night dress mfg
784	Motor vehicle mfg, assembly	631	Nike site
573	Motor vehicle repairs	689	Nitrate minerals processing
574	Motor vehicle sales	677	Nitrate minerals quarrying
575	Motor vehicle supply store	762	Nitrocellulose mfg, reclaiming
576	Motorboat sales	761	Nitrous oxide gas mfg
784	Motorcycle mfg	772	Nonferrous metal refining
784	Motorcycle parts mfg	736	Nonwoven fabric mfg
573	Motorcycle repair	739	Nonwoven fabrics mfg
574	Motorcycle sales	716	Noodle mfg
186	Movie studio	753	Novelty mfg: hardwood
183	Movie theater only	551	Novelty store
181	Movie theater with stage	611	Nuclear fuel element plant
573	Muffler repair shop: motor vehicle	612	Nuclear ordnance, bomb assembly
733	Mungo shoddy mfg	774	Nuclear reactor mchry mfg
591	Municipal building	613	Nuclear reactor power production
616	Municipal gas mfg	624	Nuclear reactor, for research
762	Munitions mfg	465	Nuns' living quarters
152	Museums	211	Nursery school: 4 hours or less
758	Music publishing, printing		Nursery school: over 4 hr but
233	Music school		Less than 24 hr. (see 251-253)
534	Music store	655	Nursery: tree, bush