

## CHAPTER 56 EXPLOSIVES AND FIREWORKS

### SECTION 5601 GENERAL

**5601.1 Scope.** The provisions of this chapter shall govern the possession, manufacture, storage, handling, sale and use of *explosives, explosive materials*, fireworks and small arms ammunition.

#### Exceptions:

1. The Armed Forces of the United States, Coast Guard or National Guard.
2. *Explosives* in forms prescribed by the official United States Pharmacopoeia.
3. The possession, storage and use of small arms ammunition when packaged in accordance with DOTn packaging requirements.
4. The possession, storage, and use of not more than 1 pound (0.454 kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and 10,000 small arms primers for hand loading of small arms ammunition for personal consumption.
5. The use of explosive materials by federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities.
6. Special industrial explosive devices which in the aggregate contain less than 50 pounds (23 kg) of explosive materials.
7. The possession, storage and use of blank industrial-power load cartridges when packaged in accordance with DOTn packaging regulations.
8. Transportation in accordance with DOTn 49 CFR Parts 100-185
9. Items preempted by federal regulations.

**5601.1.1 Explosive material standard.** In addition to the requirements of this chapter, NFPA 495 shall govern the manufacture, transportation, storage, sale, handling and use of explosive materials.

**5601.1.2 Explosive material terminals.** In addition to the requirements of this chapter, the operation of explosive material terminals shall conform to the provisions of NFPA 498.

**5601.1.3 Fireworks.** The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.

#### Exceptions:

1. Storage and handling of fireworks as allowed in Section 5604.
2. Manufacture, assembly and testing of fireworks as allowed in Section 5605.
3. The use of fireworks for display as allowed in Section 5608.
4. The possession, storage, sale, handling and use of specific types of Division I.4G fireworks where allowed by applicable laws, ordinances and regulations, provided such fireworks comply with, NFPA 1124, CPSC 16 CFR, Parts 1500 and 1507, and DOTn 49 CFR, Parts 100-185, for consumer fireworks.

**5601.1.4 Rocketry.** The storage, handling and use of model and high-power rockets shall comply with the requirements of NFPA 1122, NFPA 1125, and NFPA 1127.

**5601.1.5 Ammonium nitrate.** The storage and handling of ammonium nitrate shall comply with the requirements of NFPA 400 and Chapter 63.

**Exception:** Storage of ammonium nitrate in magazines with blasting agents shall comply with the requirements of NFPA 495.

**5601.2 Permit required.** Permits shall be required as set forth in Section 105.6 and regulated in accordance with this section.

**5601.2.1 Residential uses.** Persons shall not keep or store, nor shall any permit be issued to keep or store, any *explosives* at any place of habitation, or within 100 feet (30 480 mm) thereof.

**Exception:** Storage of smokeless propellant, black powder, and small arms primers for personal use and not for resale in accordance with Section 5606.

**5601.2.2 Sale and retail display.** Persons shall not construct a retail display nor offer for sale *explosives, explosive materials*, or fireworks upon highways, sidewalks, public property, or in Group A or E occupancies.

**5601.2.3 Permit restrictions.** The *fire code official* is authorized to limit the quantity of *explosives, explosive materials*, or fireworks permitted at a given location. Persons possessing a permit for storage of *explosives* at any place, shall not keep or store an amount greater than authorized in such permit. Only the kind of explosive specified in such a permit shall be kept or stored.

**5601.2.4 Financial responsibility.** Before a permit is issued, as required by Section 5601.2, the applicant shall file with the jurisdiction a corporate surety bond in the principal sum of \$100,000 or a public liability insurance policy for the same amount, for the purpose of the payment of all damages to persons or property which arise from, or are caused by, the conduct of any act authorized by the permit upon which any

judicial judgment results. The fire code official is authorized to specify a greater or lesser amount when, in his or her opinion, conditions at the location of use indicate a greater or lesser amount is required. Government entities shall be exempt from this bond requirement.

**5601.2.4.1 Blasting.** Before approval to do blasting is issued, the applicant for approval shall file a bond or submit a certificate of insurance in such form, amount and coverage as determined by the legal department of the jurisdiction to be adequate in each case to indemnify the jurisdiction against any and all damages arising from permitted blasting.

**5601.2.4.2 Fireworks display.** The permit holder shall furnish a bond or certificate of insurance in an amount deemed adequate by the *fire code official* for the payment of all potential damages to a person or persons or to property by reason of the permitted display, and arising from any acts of the permit holder, the agent, employees or subcontractors. *[per Schuylkill Township Code Chapter 140-3 UCC Section 5601.2.4.2, Fireworks Display, is amended to include the following sentence: The permit applicant shall submit the hold harmless agreement executed with Schuylkill Township, evidence of current workers compensation insurance, DOT insurance, and general liability insurance and umbrella insurance.]*

**5601.3 Prohibited explosives.** Permits shall not be issued or renewed for possession, manufacture, storage, handling, sale or use of the following materials and such materials currently in storage or use shall be disposed of in an approved manner.

1. Liquid nitroglycerin.
2. Dynamite containing more than 60-percent liquid explosive ingredient.
3. Dynamite having an unsatisfactory absorbent or one that permits leakage of a liquid explosive ingredient under any conditions liable to exist during storage.
4. Nitrocellulose in a dry and uncompressed condition in a quantity greater than 10 pounds (4.54 kg) of net weight in one package.
5. Fulminate of mercury in a dry condition and fulminate of all other metals in any condition except as a component of manufactured articles not hereinafter forbidden.
6. *Explosive* compositions that ignite spontaneously or undergo marked decomposition, rendering the products of their use more hazardous, when subjected for 48 consecutive hours or less to a temperature of 167°P (75°C).
7. New *explosive materials* until approved by DOTn, except that permits are allowed to be issued to educational, governmental or industrial laboratories for instructional or research purposes.

8. *Explosive materials* forbidden for transport by DOTn.
9. *Explosive materials* containing an ammonium salt and a chlorate.
10. *Explosives* not packed or marked as required by DOTn 49 CFR, Parts 100-185.

**Exception:** Gelatin dynamite.

**5601.4 Qualifications.** Persons in charge of magazines, blasting, fireworks display, or pyrotechnic special effect operations shall not be under the influence of alcohol or drugs which impair sensory or motor skills, shall be at least 21 years of age, and shall demonstrate knowledge of all safety precautions related to the storage, handling or use of *explosives*, *explosive materials* or fireworks.

**5601.5 Supervision.** The *fire code official* is authorized to require operations permitted under the provisions of Section 5601.2 to be supervised at any time by the *fire code official* in order to determine compliance with all safety and fire regulations.

**5601.6 Notification.** Whenever a new *explosive material* storage or manufacturing site is established, including a temporary job site, the local law enforcement agency, fire department, and local emergency planning committee shall be notified 48 hours in advance, not including Saturdays, Sundays and holidays, of the type, quantity and location of explosive materials at the site.

**5601.7 Seizure.** The *fire code official* is authorized to remove or cause to be removed or disposed of in an approved manner, at the expense of the owner, *explosives*, *explosive materials* or fireworks offered or exposed for sale, stored, possessed or used in violation of this chapter.

**5601.8 Establishment of quantity of explosives and distances.** The quantity of *explosives* and distances shall be in accordance with Sections 5601.8.1 and 5601.8.1.1.

**5601.8.1 Quantity of explosives.** The quantity-distance (Q-D) tables in Sections 5604.5 and 5605.3 shall be used to provide the minimum separation distances from potential explosion sites as set forth in [Tables 5601.8.1\(1\) through 5601.8.1\(3\)](#). The classification and the weight of the *explosives* are primary characteristics governing the use of these tables. The net *explosive* weight shall be determined in accordance with Sections 5601.8.1.1 through 5601.8.1.4.

**5601.8.1.1 Mass-detonating explosives (Division 1.1, 1.2 or 1.5).** The total net explosive weight of mass-detonating *explosives* (Division 1.1, 1.2 or 1.5) shall be used. [See Table 5604.5.2\(1\) or Table 5605.3](#) as appropriate.

**Exception:** When the TNT equivalence of the explosive material has been determined, the equivalence is allowed to be used to establish the net explosive weight.

**5601.8.1.2 Nonmass-detonating explosives (excluding Division 1.4).** Nonmass-detonating *explosives* (excluding Division 1.4) shall be as follows:

1. Division 1.3 propellants. The total weight of the propellants alone shall be the net explosive weight. The net weight of propellant shall be used. See [Table 5604.5.2\(2\)](#).

## SECTION 5608 FIREWORKS DISPLAY

**5608.1 General.** Outdoor fireworks displays, use of pyrotechnics before a *proximate audience* and pyrotechnic special effects in motion picture, television, theatrical and group entertainment productions shall comply with Sections 5608.2 through 5608.10 and NFPA 1123 or NFPA 1126.

**5608.2 Permit application.** Prior to issuing permits for a fireworks display, plans for the display, inspections of the display site and demonstrations of the display operations shall be *approved*. A plan establishing procedures to follow and actions to be taken in the event that a shell fails to ignite in, or discharge from, a mortar or fails to function over the fallout area or other malfunctions shall be provided to the *fire code official*.

**5608.2.1 Outdoor displays.** In addition to the requirements of Section 403, permit applications for outdoor fireworks displays using Division 1.3G fireworks shall include a diagram of the location at which the display will be conducted, including the site from which fireworks will be discharged; the location of buildings, highways, overhead obstructions and utilities; and the lines behind which the audience will be restrained.

**5608.2.2 Use of pyrotechnics before a proximate audience.** Where the separation distances required by Section 5608.4 and NFPA 1123 are unavailable or cannot be secured, fireworks displays shall be conducted in accordance with NFPA 1126 for *proximate audiences*. Applications for use of pyrotechnics before a *proximate audience* shall include plans indicating the required clearances for spectators and combustibles, crowd control measures, smoke control measures, and requirements for standby personnel and equipment where provision of such personnel or equipment is required by the *fire code official*.

**5608.3 Approved fireworks displays.** *Approved* fireworks displays shall include only the *approved* fireworks 1.3G, fireworks 1.4G, fireworks 1.4S and pyrotechnic articles, 1.4G, which shall be handled by an *approved*, competent operator. The *approved* fireworks shall be arranged, located, discharged and fired in a manner that will not pose a hazard to property or endanger any person.

2. Combinations of bulk metal powder and pyrotechnic compositions. The sum of the net weights of metal powders and pyrotechnic compositions in the containers shall be the net explosive weight. See [Table 5604.5.2\(2\)](#).

**5608.4 Clearance.** Spectators, spectator parking areas, and *dwellings*, buildings or structures shall not be located within the display site.

### Exceptions:

1. This provision shall not apply to pyrotechnic special effects and displays using Division 1.4G materials before a *proximate audience* in accordance with NFPA 1126.
2. This provision shall not apply to unoccupied *dwellings*, buildings and structures with the approval of the building owner and the *fire code official*.

**5608.5 Storage of fireworks at display site.** The storage of fireworks at the display site shall comply with the requirements of this section and NFPA 1123 or NFPA 1126.

**5608.5.1 Supervision and weather protection.** Beginning as soon as fireworks have been delivered to the display site, they shall not be left unattended.

**5608.5.2 Weather protection.** Fireworks shall be kept dry after delivery to the display site.

**5608.5.3 Inspection.** Shells shall be inspected by the operator or assistants after delivery to the display site. Shells having tears, leaks, broken fuses or signs of having been wet shall be set aside and shall not be fired. Aerial shells shall be checked for proper fit in mortars prior to discharge. Aerial shells that do not fit properly shall not be fired. After the fireworks display, damaged, deteriorated or dud shells shall either be returned to the supplier or destroyed in accordance with the supplier's instructions and Section 5604.10.

**Exception:** Minor repairs to fuses shall be allowed. For electrically ignited displays, attachment of electric matches and similar tasks shall be allowed.

**5608.5.4 Sorting and separation.** After delivery to the display site and prior to the display, all shells shall be separated according to size and their designation as salutes.

**Exception:** For electrically fired displays, or displays where all shells are loaded into mortars prior to the show,

there is no requirement for separation of shells according to size or their designation as salutes.

**5608.5.5 Ready boxes.** Display fireworks, 1.3G, that will be temporarily stored at the site during the fireworks display shall be stored in ready boxes located upwind and at least 25 feet (7620 mm) from the mortar placement and separated according to size and their designation as salutes.

**Exception:** For electrically fired displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size, their designation as salutes, or for the use of ready boxes.

**5608.6 Installation of mortars.** Mortars for firing fireworks shells shall be installed in accordance with NFPA 1123 and shall be positioned so that shells are propelled away from spectators and over the fallout area. Under no circumstances shall mortars be angled toward the spectator viewing area. Prior to placement, mortars shall be inspected for defects, such as dents, bent ends, damaged interiors and damaged plugs. Defective mortars shall not be used.

**5608.7 Handling.** Aerial shells shall be carried to mortars by the shell body. For the purpose of loading mortars, aerial shells shall be held by the thick portion of the fuse and carefully loaded into mortars.

**5608.8 Fireworks display supervision.** Whenever in the opinion of the *fire code official* or the operator a hazardous condition exists, the fireworks display shall be discontinued immediately until such time as the dangerous situation is corrected.

**5608.9 Post-fireworks display inspection.** After the fireworks display, the firing crew shall conduct an inspection of the fallout area for the purpose of locating unexploded aerial shells or live components. This inspection shall be conducted before public access to the site shall be allowed. Where fireworks are displayed at night and it is not possible to inspect the site thoroughly, the operator or designated assistant shall inspect the entire site at first light.

A report identifying any shells that fail to ignite in, or discharge from, a mortar or fail to function over the fallout area or otherwise malfunction shall be filed with the *fire code official*.

**5608.10 Disposal.** Any shells found during the inspection required in Section 5608.9 shall not be handled until at least 15 minutes have elapsed from the time the shells were fired. The fireworks shall then be doused with water and allowed to remain for at least 5 additional minutes before being placed in a plastic bucket or fiberboard box. The disposal instructions of the manufacturer as provided by the fireworks supplier shall then be followed in disposing of the fireworks in accordance with Section 5604.10.

## SECTION 5609

### TEMPORARY STORAGE OF CONSUMER FIREWORKS

**5609.1 General.** Where the temporary storage of consumer fireworks, 1.4G is allowed by Section 5601.1.3, Exception 4, such storage shall comply with the applicable requirements of NFPA 1124.