

CHAPTER 62

ORGANIC PEROXIDES

User note:

About this chapter: Chapter 62 addresses the hazards associated with the storage, handling and use of organic peroxides and is intended to manage the fire and oxidation hazards of organic peroxides by preventing their uncontrolled release. These chemicals possess the characteristics of flammable or combustible liquids and are also strong oxidizers. This unusual combination of properties requires special storage and handling precautions to prevent uncontrolled release, contamination, hazardous chemical reactions, fires or explosions. The requirements of this chapter pertain to industrial applications in which significant quantities of organic peroxides are stored or used; however, smaller quantities of organic peroxides still pose a significant hazard and, therefore, must be stored and used in accordance with the applicable provisions of this chapter and Chapter 50.

SECTION 6201 GENERAL

6201.1 Scope. The storage and use of organic peroxides shall be in accordance with this chapter and Chapter 50.

Unclassified detonable organic peroxides that are capable of *detonation* in their normal shipping containers under conditions of fire exposure shall be stored in accordance with Chapter 56.

6201.2 Permits. Permits shall be required for organic peroxides as set forth in Section 105.6.

SECTION 6202 DEFINITION

6202.1 Definition. The following term is defined in Chapter 2:

ORGANIC PEROXIDE.

Class I.

Class II.

Class III.

Class IV.

Class V.

Unclassified detonable.

SECTION 6203 GENERAL REQUIREMENTS

6203.1 Quantities not exceeding the maximum allowable quantity per control area. The storage and use of organic peroxides in amounts not exceeding the *maximum allowable quantity per control area* indicated in Section 5003.1 shall be in accordance with Sections 5001, 5003, 6201 and 6203.

6203.1.1 Special limitations for indoor storage and use by occupancy. The indoor storage and use of organic peroxides shall be in accordance with Sections 6203.1.1.1 through 6203.1.1.4.

6203.1.1.1 Group A, E, I or U occupancies. In Group A, E, I or U occupancies, any amount of unclassified detonable and Class I organic peroxides shall be stored in accordance with the following:

1. Unclassified detonable and Class I organic peroxides shall be stored in hazardous materials storage cabinets complying with Section 5003.8.7.
2. The hazardous materials storage cabinets shall not contain other storage.

6203.1.1.2 Group R occupancies. Unclassified detonable and Class I organic peroxides shall not be stored or used within Group R occupancies.

6203.1.1.3 Group B, F, M or S occupancies. Unclassified detonable and Class I organic peroxides shall not be stored or used in offices, or retail sales areas of Group B, F, M or S occupancies.

6203.1.1.4 Classrooms. In classrooms in Group B, F or M occupancies, any amount of unclassified detonable and Class I organic peroxides shall be stored in accordance with the following.

ORGANIC PEROXIDES

1. Unclassified detonable and Class 1 organic peroxides shall be stored in hazardous materials storage cabinets complying with Section 5003.8.7.
2. The hazardous materials storage cabinets shall not contain other storage.

6203.2 Quantities exceeding the maximum allowable quantity per control area. The storage and use of organic peroxides in amounts exceeding the *maximum allowable quantity per control area* indicated in Section 5003.1 shall be in accordance with Chapter 50 and this chapter.

SECTION 6204 STORAGE

6204.1 Indoor storage. Indoor storage of organic peroxides in amounts exceeding the *maximum allowable quantity per control area* indicated in Table 5003.1.1(1) shall be in accordance with Sections 5001, 5003, 5004 and this chapter.

Indoor storage of unclassified detonable organic peroxides that are capable of *detonation* in their normal shipping containers under conditions of fire exposure shall be stored in accordance with Chapter 56.

6204.1.1 Detached storage. Storage of organic peroxides shall be in detached buildings where required by Section 5003.8.2.

6204.1.2 Distance from detached buildings to exposures. In addition to the requirements of the *International Building Code*, detached storage buildings for Class I, II, III, IV and V organic peroxides shall be located in accordance with Table 6204.1.2. Detached buildings containing quantities of unclassified detonable organic peroxides in excess of those set forth in Table 5003.8.2 shall be located in accordance with Table 5604.5.2(1).

TABLE 6204.1.2

ORGANIC PEROXIDES—DISTANCE TO EXPOSURES FROM DETACHED STORAGE BUILDINGS OR OUTDOOR STORAGE AREAS

ORGANIC PEROXIDE CLASS	MAXIMUM STORAGE QUANTITY (POUNDS) AT MINIMUM SEPARATION DISTANCE					
	Distance to buildings, lot lines, public streets, public alleys, public ways or means of egress			Distance between individual detached storage buildings or individual outdoor storage areas		
	50 feet	100 feet	150 feet	20 feet	75 feet	100 feet
I	2,000	20,000	175,000	2,000	20,000	175,000
II	100,000	200,000	No Limit	100,000 ^a	No Limit	No Limit
III	200,000	No Limit	No Limit	200,000 ^a	No Limit	No Limit
IV	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
V	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg.

a. Where the amount of organic peroxide stored exceeds this amount, the minimum separation shall be 50 feet.

6204.1.3 Liquid-tight floor. In addition to the requirements of Section 5004.12, floors of storage areas shall be of liquid-tight construction.

6204.1.4 Electrical wiring and equipment. In addition to the requirements of Section 5003.9.4, electrical wiring and equipment in storage areas for Class I or II organic peroxides shall comply with the requirements for electrical Class I, Division 2 locations.

6204.1.5 Smoke detection. An *approved* supervised smoke detection system in accordance with Section 907 shall be provided in rooms or areas where Class I, II or III organic peroxides are stored. Activation of the smoke detection system shall sound a local alarm.

Exception: A smoke detection system shall not be required in detached storage buildings equipped throughout with an *approved* automatic fire-extinguishing system complying with Chapter 9.

6204.1.6 Maximum quantities. Maximum allowable quantities per building in a mixed occupancy building shall not exceed the amounts set forth in Table 5003.8.2. Maximum allowable quantities per building in a detached storage building shall not exceed the amounts specified in Table 6204.1.2.

6204.1.7 Storage arrangement. Storage arrangements for organic peroxides shall be in accordance with Table 6204.1.7 and shall comply with all of the following:

1. Containers and packages in storage areas shall be closed.
2. Bulk storage shall not be in piles or bins.
3. A minimum 2-foot (610 mm) clear space shall be maintained between storage and uninsulated metal walls.
4. Fifty-five-gallon (208 L) drums shall not be stored more than one drum high.

**TABLE 6204.1.7
STORAGE OF ORGANIC PEROXIDES**

ORGANIC PEROXIDE CLASS	PILE CONFIGURATION				MAXIMUM QUANTITY PER BUILDING
	Maximum width (feet)	Maximum height (feet)	Minimum distance to next pile (feet)	Minimum distance to walls (feet)	
I	6	8	4 ^a	4 ^b	Note c
II	10	8	4 ^a	4 ^b	Note c
III	10	8	4 ^a	4 ^b	Note c
IV	16	10	3 ^{a, d}	4 ^b	No Requirement
V	No Requirement	No Requirement	No Requirement	No Requirement	No Requirement

For SI: 1 foot = 304.8 mm.

- Not less than one main aisle with a minimum width of 8 feet shall divide the storage area.
- Distance to noncombustible walls is allowed to be reduced to 2 feet.
- See Table 6204.1.2 for maximum quantities.
- The distance shall be not less than one-half the pile height.

6204.1.8 Location in building. The storage of Class I or II organic peroxides shall be on the ground floor. Class III organic peroxides shall not be stored in *basements*.

6204.1.9 Contamination. Organic peroxides shall be stored in their original DOTn shipping containers. Organic peroxides shall be stored in a manner to prevent contamination.

6204.1.10 Explosion control. Indoor storage rooms, areas and buildings containing unclassified detonable and Class I organic peroxides shall be provided with explosion control in accordance with Section 911.

6204.1.11 Standby power. Standby power shall be provided in accordance with Section 1203 for the following systems used to protect Class I and unclassified detonable organic peroxide:

- Exhaust ventilation system.
- Treatment system.
- Smoke detection system.
- Temperature control system.
- Fire alarm system.
- Emergency alarm system.

6204.1.11.1 Fail-safe engineered systems. Standby power shall not be required for mechanical exhaust ventilation, treatment systems and temperature control systems where *approved* fail-safe engineered systems are installed.

6204.2 Outdoor storage. Outdoor storage of organic peroxides in amounts exceeding the *maximum allowable quantities per control area* indicated in Table 5003.1.1(3) shall be in accordance with Sections 5001, 5003, 5004 and this chapter.

6204.2.1 Distance from storage to exposures. Outdoor storage areas for organic peroxides shall be located in accordance with Table 6204.1.2.

6204.2.2 Electrical wiring and equipment. In addition to the requirements of Section 5003.9.4, electrical wiring and equipment in outdoor storage areas containing unclassified detonable, Class I or II organic peroxides shall comply with the requirements for electrical Class I, Division 2 locations.

6204.2.3 Maximum quantities. Maximum quantities of organic peroxides in outdoor storage shall be in accordance with Table 6204.1.2.

6204.2.4 Storage arrangement. Storage arrangements shall be in accordance with Table 6204.1.7.

6204.2.5 Separation. In addition to the requirements of Section 5003.9.8, outdoor storage areas for organic peroxides in amounts exceeding those specified in Table 5003.8.2 shall be located a minimum distance of 50 feet (15 240 mm) from other hazardous material storage.

SECTION 6205 USE

6205.1 General. The use of organic peroxides in amounts exceeding the *maximum allowable quantity per control area* indicated in Table 5003.1.1(1) or 5003.1.1(3) shall be in accordance with Sections 5001, 5003, 5005 and this chapter.

