



## Ohio Administrative Code Rule 1301:7-7-59 Flammable solids.

Effective: December 15, 2017

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### (A) Section 5901 General

(1) 5901.1 Scope. The storage and use of flammable solids shall be in accordance with this rule.

(2) 5901.2 Permits. Permits shall be required as set forth in rule 1301:7-7-01 of the Administrative Code.

### (B) Section 5902 Definitions

(1) 5902.1 Definitions. The following terms are defined in rule 1301:7-7-02 of the Administrative Code.

"Flammable solid."

"Magnesium."

### (C) Section 5903 General requirements

(1) 5903.1 Quantities not exceeding the maximum allowable quantity per control area. The storage and use of flammable solids in amounts not exceeding the maximum allowable quantity per control area as indicated in paragraph (C)(1)(5003.1) of rule 1301:7-7-50 of the Administrative Code shall be in accordance with paragraphs (A)(5001) and (C)(5003) of rule 1301:7-7-50 of the Administrative Code and paragraph (A)(5901) of this rule.

(2) 5903.2 Quantities exceeding the maximum allowable quantity per control area. The storage and use of flammable solids exceeding the maximum allowable quantity per control area as indicated in paragraph (C)(1)(5003.1) of rule 1301:7-7-50 of the Administrative Code shall be in accordance with rule 1301:7-7-50 of the Administrative Code and this rule.



(D) Section 5904 Storage

(1) 5904.1 Indoor storage. Indoor storage of flammable solids in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) of rule 1301:7-7-50 of the Administrative Code shall be in accordance with paragraphs (A)(5001), (C)(5003) and (D)(5004) of rule 1301:7-7-50 of the Administrative Code and this rule.

(a) 5904.1.1 Pile size limits and location. Flammable solids stored in quantities greater than 1,000 cubic feet (28 m<sup>3</sup>) shall be separated into piles each not larger than 1,000 cubic feet (28 m<sup>3</sup>).

(b) 5904.1.2 Aisles. Aisle widths between piles shall not be less than the height of the piles or 4 feet (1219 mm), whichever is greater.

(c) 5904.1.3 Basement storage. Flammable solids shall not be stored in basements.

(2) 5904.2 Outdoor storage. Outdoor storage of flammable solids in amounts exceeding the maximum allowable quantities per control area indicated in Table 5003.1.1(3) of rule 1301:7-7-50 of the Administrative Code shall be in accordance with paragraphs (A)(5001), (C)(5003) and (D)(5004) of rule 1301:7-7-50 of the Administrative Code and this rule. Outdoor storage of magnesium shall be in accordance with paragraph (F)(5906) of this rule.

(a) 5904.2.1 Distance from storage to exposures. Outdoor storage of flammable solids shall not be located within 20 feet (6096 mm) of a building, lot line, public street, public alley, public way or means of egress. A 2-hour fire barrier without openings or penetrations and extending 30 inches (762 mm) above and to the sides of the storage area is allowed in lieu of such distance. The wall shall either be an independent structure, or the exterior wall of the building adjacent to the storage area.

(b) 5904.2.2 Pile size limits. Outdoor storage of flammable solids shall be separated into piles not larger than 5,000 cubic feet (141 m<sup>3</sup>) each. Piles shall be separated by aisles with a minimum width of not less than one-half the pile height or 10 feet (3048 mm), whichever is greater.

(E) Section 5905 Use



(1) 5905.1 General. The use of flammable solids in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) or 5003.1.1(3) of rule 1301:7-7-50 of the Administrative Code shall be in accordance with paragraphs (A)(5001), (C)(5003) and (E)(5005) of rule 1301:7-7-50 of the Administrative Code and this rule. The use of magnesium shall be in accordance with paragraph (F)(5906) of this rule.

(F) Section 5906 Magnesium

(1) 5906.1 General. Storage, use, handling and processing of magnesium, including the pure metal and alloys of which the major part is magnesium, shall be in accordance with rule 1301:7-7-50 of the Administration Code and paragraphs (F)(2)(5906.2) to (F)(5)(h)(5906.5.8) of this rule.

(2) 5906.2 Storage of magnesium articles. The storage of magnesium shall comply with paragraphs (F)(2)(a)(5906.2.1) to (F)(4)(c)(5906.4.3) of this rule.

(a) 5906.2.1 Storage of greater than 50 cubic feet. Magnesium storage in quantities greater than 50 cubic feet ( $1.4 \text{ m}^3$ ) shall be separated from storage of other materials that are either combustible or in combustible containers by aisles. Piles shall be separated by aisles with a minimum width of not less than the pile height.

(b) 5906.2.2 Storage of greater than 1,000 cubic feet. Magnesium storage in quantities greater than 1,000 cubic feet ( $28 \text{ m}^3$ ) shall be separated into piles not larger than 1,000 cubic feet ( $28 \text{ m}^3$ ) each. Piles shall be separated by aisles with a minimum width of not less than the pile height. Such storage shall not be located in nonsprinklered buildings of Type III, IV or V construction, as defined in the building code as listed in rule 1301:7-7-80 of the Administrative Code.

(c) 5906.2.3 Storage in combustible containers or within 30 feet of other combustibles. Where in nonsprinklered buildings of Type III, IV or V construction, as defined in the building code as listed in rule 1301:7-7-80 of the Administrative Code, magnesium shall not be stored in combustible containers or within 30 feet (9144 mm) of other combustibles.

(d) 5906.2.4 Storage in foundries and processing plants. The size of storage piles of magnesium



articles in foundries and processing plants shall not exceed 1,250 cubic feet ( $25 \text{ m}^3$ ). Piles shall be separated by aisles with a minimum width of not less than one-half the pile height.

(3) 5906.3 Storage of pigs, ingots and billets. The storage of magnesium pigs, ingots and billets shall comply with paragraphs (F)(3)(a)(5906.3.1) and (F)(3)(b)(5906.3.2) of this rule.

(a) 5906.3.1 Indoor storage. Indoor storage of pigs, ingots and billets shall only be on floors of noncombustible construction. Piles shall not be larger than 500,000 pounds (226.8 metric tons) each. Piles shall be separated by aisles with a minimum width of not less than one-half the pile height.

(b) 5906.3.2 Outdoor storage. Outdoor storage of magnesium pigs, ingots and billets shall be in piles not exceeding 1,000,000 pounds (453.6 metric tons) each. Piles shall be separated by aisles with a minimum width of not less than one-half the pile height. Piles shall be separated from combustible materials or buildings on the same or adjoining property by a distance of not less than the height of the nearest pile.

(4) 5906.4 Storage of fine magnesium scrap. The storage of scrap magnesium shall comply with paragraphs (F)(4)(a)(5906.4.1) to (F)(4)(c)(5906.4.3) of this rule.

(a) 5906.4.1 Separation. Magnesium fines shall be kept separate from other combustible materials.

(b) 5906.4.2 Storage of 50 to 1,000 cubic feet. Storage of fine magnesium scrap in quantities greater than 50 cubic feet ( $1.4 \text{ m}^3$ ) [six 55-gallon (208 L) steel drums] shall be separated from other occupancies by an open space of not less than 50 feet (15 240 mm) or by a fire barrier constructed in accordance with section 707 of the building code as listed in rule 1301:7-7-80 of the Administrative Code.

(c) 5906.4.3 Storage of greater than 1,000 cubic feet. Storage of fine magnesium scrap in quantities greater than 1,000 cubic feet ( $28 \text{ m}^3$ ) shall be separated from all buildings other than those used for magnesium scrap recovery operations by a distance of not less than 100 feet (30 480 mm).

(5) 5906.5 Use of magnesium. The use of magnesium shall comply with paragraphs (F)(5)(a)(5906.5.1) to (F)(5)(h)(5906.5.8) of this rule.



(a) 5906.5.1 Melting pots. Floors under and around melting pots shall be of noncombustible construction.

(b) 5906.5.2 Heat-treating ovens. Approved means shall be provided for control of magnesium fires in heat-treating ovens.

(c) 5906.5.3 Dust collection. Magnesium grinding, buffing and wire-brushing operations, other than rough finishing of castings, shall be provided with approved hoods or enclosures for dust collection that are connected to a liquid-precipitation type of separator that converts dust to sludge without contact (in a dry state) with any high-speed moving parts.

(i) 5906.5.3.1 Duct construction. Connecting ducts or suction tubes shall be completely grounded, as short as possible, and without bends. Ducts shall be fabricated and assembled with a smooth interior, with internal lap joints pointing in the direction of airflow and without unused capped side outlets, pockets or other dead-end spaces which allow an accumulation of dust.

(ii) 5906.5.3.2 Independent dust separators. Each machine shall be equipped with an individual dust-separating unit.

Exceptions:

1. One separator is allowed to serve two dust-producing units on multiunit machines.
2. One separator is allowed to serve not more than four portable dust-producing units in a single enclosure or stand.

(d) 5906.5.4 Power supply interlock. Power supply to machines shall be interlocked with exhaust airflow, and liquid pressure level or flow. The interlock shall be designed to shut down the machine it serves when the dust removal or separator system is not operating properly.

(e) 5906.5.5 Electrical equipment. Electric wiring, fixtures and equipment in the immediate vicinity of and attached to dust-producing machines, including those used in connection with separator



equipment, shall be of approved types and shall be approved for use in Class II, Division 1 hazardous locations in accordance with NFPA 70 as listed in rule 1301:7-7-80 of the Administrative Code.

(f) 5906.5.6 Grounding. Equipment shall be securely grounded by permanent ground wires in accordance with NFPA 70 as listed in rule 1301:7-7-80 of the Administrative Code.

(g) 5906.5.7 Fire-extinguishing materials. Fire extinguishing materials shall be provided for every operator performing machining, grinding or other processing operation on magnesium in accordance with either of the following:

(i) Within 30 feet (9144 mm), a supply of extinguishing materials in an approved container with a hand scoop or shovel for applying the material.

(ii) Within 75 feet (22 860 mm), a portable fire extinguisher complying with paragraph (F)(906) of rule 1301:7-7-09 of the Administrative Code.

All extinguishing materials shall be approved for use on magnesium fires. Where extinguishing materials are stored in cabinets or other enclosed areas, the enclosures shall be openable without the use of a key or special knowledge.

(h) 5906.5.8 Collection of chips, turnings and fines. Chips, turnings and other fine magnesium scrap shall be collected from the pans or spaces under machines and from other places where they collect not less than once each working day. Such material shall be placed in a covered, vented steel container and removed to an approved location.