Ind 8

Filed Nov 18, 1960
11:15 a.m.

STATE OF WISCONSIN)
) ss.
DEPT. OF INDUSTRIAL COMMISSION)

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Helen E. Gill, Secretary of the Industrial Commission, and custodian of the official records of said commission, do hereby certify that the attached rules and regulations relating to the Flammable Liquids Code, Chapter 8 - Wisconsin Administrative Code, were duly approved and adopted by this commission on November 11, 1960.

I further certify that said copy has been compared by me with the original on file in this commission and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the department at the Capitol, in the city of Madison, this 17th day of November, A. D., 1960.

Helen E. Gill
Secretary

Pursuant to authority vested in the Industrial Commission by Sections 101.01 - 101.29 Wisconsin Statutes, the Industrial Commission on November 11, 1960 voted to make the following changes in the Wisconsin Administrative Code, Chapter 8 - Flammable Liquids.

Adopt new orders Ind 8.14, Ind 8.26 and Ind 8.991

Amend Ind 8.63(7) and renumber it Ind 8.15

Amend Ind 8.21 by adding (1)(a)1

Ind 8.30(4)(b)1

Ind 8.52(2) by adding (d)

Ind 8.62(1)(a) and add Ind 8.62(1)(d)

Ind 8.71(2)

Ind 8.72(3)

Ind 8.953(9)

Repeal Ind 8.31(2)(b)(c) and adopt new Ind 8.31(2)(b)(c)

The orders in their new and amended form are as follows:

Wisconsin Administrative Code

Chapter Ind 8

Flammable Liquids

Ind 8.14 General provisions for dispensing or use of Class I and II flammable liquids. (1) A Class I or II flammable liquid when used in starting an engine or as fuel for a small heating appliance, lighting appliance, power tool or gasoline engine shall be dispensed only from an approved, properly identified safety can or screwed cover spout can approved for that specific use.

(a) Except as permitted under specific regulations, a Class I or II flammable liquid shall not be dispensed into the fuel supply tank of any type internal combustion engine while the engine is running.

(b) Repair and maintenance work involving a possible source of ignition shall not be performed in a room or area containing or likely to contain an ignitable mixture of hydrocarbon vapors and air.

(c) A Class I and II flammable liquid shall not be used for degreasing or cleaning any engine, machine, equipment or part thereof or for cleaning a floor, pit, or any part of a building or premises. See section Ind 8.75.

1. Industrial processes requiring use of Class I or II flammable liquids for degreasing or cleaning any engine, machine or part thereof shall be designed to incorporate a ventilation system to reduce vapor concentration below safe fire and explosive limits.

(d) Clothing saturated with a Class I or II flammable liquid shall not be worn longer than the time required for removal and shall not be worn or taken into a building where a source of ignition exists.

Ind 8.15 Race track fueling stations. Tanks of racing vehicles shall be filled from safety cans, or pumps, or approved systems or approved containers as provided by section Ind 8.63(2)(a) or section Ind 8.63(2)(d). During a race in

which a vehicle is competing it may be refueled while its engine is running. Signs prohibiting smoking in fueling areas shall be posted as provided in section Ind 8.66 and an approved fire extinguisher of at least 8B classification shall be provided at each fueling location.

Ind 8.21 Installation of outside aboveground tanks.

(1) Location with Respect to Property Lines.

Buildings.

(1)(a)1. The distance between aboveground tanks and buildings of same ownership shall be one-half the distance shown in Table 1.

Ind 8.26 Leaking tanks. Tanks found to be leaking shall be taken temporarily out of service, abandoned in place, or removed as provided in section Ind 8.25.

Ind 8.30(4)(b)1. Apartment houses containing not more than 4 dwelling units. Storage other than fuel oil shall be prohibited except that which is required for maintenance or equipment operation which shall not exceed 6 gallons. Such flammable liquid shall be stored in metal closed containers or safety cans.

Ind 8.31(2)(b) Drums stored outside shall not be located within 10 feet of any building.

Ind 8.31(2)(c) Storage of over 100 drums of Class I and II flammable liquids shall be limited to groups of 100 and in these quantities shall be located at least 30 feet from the nearest building or line of adjoining property which may be built upon and each group shall be separated by at least 20 feet. Storage of over 300 drums of Class III flammable liquids shall be limited to groups of 300 and in these quantities shall be located at least 25 feet from nearest building or line of adjoining property that may be built upon and each group shall be separated by at least 15 feet. These distances may be reduced 50% if sprinklers and drainage away from exposure are provided. In particular installations the distance requirements to buildings may be altered at the discretion of the

industrial commission after consideration of the height, size and character of construction and occupancy of the exposed buildings.

Ind 8.52(2)(d) Before unloading operations are started and before any connection or contact is made with piping or other unloading equipment, the tank car or other transport shall be electrically bonded in an effective manner.

Permanent electrical connection of not less than No. 0 copper cable shall be made between the rails on which the tank cars stand and the piping system used in connection with handling of flammable liquids.

> Note: This connection may be accomplished in one of two ways: The rails may be bonded by means of standard rail bonds, and connected to the permanent piping system with No. 0 electric cable connections at each end of the loading or unloading section: or a similar connection may be made between each rail on which cars stand and the permanent piping system.

Ind 8.62(1)(a) (1) General Provisions. (a) Class I and II flammable liquids shall be stored in closed containers not exceeding 60 gallons capacity or in tanks located underground or in special enclosures as described in section Ind 8.62(2).

Ind 8.62(1)(d) The provisions of section Ind 8.62(1)(a)(b) shall not prohibit the temporary use of portable or semi-portable tanks in conjunction with the dispensing of flammable liquids into the fuel tanks of motor vehicles or other motorized equipment on premises not normally accessible to the public.

Ind 8.71(2) Design and Construction of Inside Mixing and Handling Rooms. Rooms shall have at least one exterior wall. Walls, floors and ceilings shall be of non-combustible construction having at least a 2-hour, fire-resistive rating. Doors shall be provided with non-combustible, liquid-tight sills at least 6 inches high and provided with an approved Class B or equal fire door of the self-closing type. (A permissible alternate to either sills and ramps is open trenches covered with steel grating.) Adequate drainage to a safe location shall be provided. Adequate natural or mechanical ventilation shall be provided. Heating shall be by low pressure steam or hot water or by electrical units approved for Class I hazardous locations. Lighting and electrical devices shall be approved for

Class I hazardous locations. All equipment such as mixers, filters, pumps, motors, shafting shall be permanently and effectively grounded.

Note: National Fire Protection Association Pamphlet No. 91, Standards on Blower and Exhaust Systems for Dust, Stock and Vapor Removal, provides information on the design and installation of mechanical ventilation as does the Wisconsin state electrical code for the design and installation or electrical equipment in hazardous locations. (This reference is available in the offices of the industrial commission, the secretary of state, and the revisor of statutes.)

Ind 8.72(3) Class I or II flammable liquids shall not be dispensed within a room or building which normally contains source of ignition within the possible path of vapor travel. Dispensing devices shall be provided with iron or steel valves where compatible with the flammable liquid handled. Where practicable, there shall be, in addition to the outlet valve, a secondary control device or valve outside of the immediate area, by which the flow may be stopped in the event of fire or other accident at the outlet. Outlet valves, where practicable, shall be of the self-closing type and kind of product shall be identified.

Ind 8.953(9) Bulkheads and Baffles. (a) Every cargo tank used for the distribution of Class I and Class II flammable liquids to automotive or marine service stations to which the public is invited shall be divided into compartments, no one of which shall exceed 2500 gallons provided that any cargo tank in use in this state as of the effective date of this order may be used in aforesaid distribution if no compartment thereof has a capacity exceeding 3000 gallons. A construction tolerance of 10% shall be allowed for capacities of individual compartments or tanks.

Recommendation: The normal traffic and other hazards inherent in the distribution of motor fuel and other flammable liquids by tank vehicles can be minimized by curtailing the number of trips over the streets and highways and the number of cargo tank loading and unloading operations. Restrictions limiting cargo tank capacity or the quantity that may be distributed per load tend to increase these hazards.

PART V

Rules for the Storage and Handling of Flammable Liquids on Farms and Construction Projects

Ind 8.991(1) Scope. (a) The provisions of section Ind 8.991 apply to the storage and handling of flammable liquids on farms. They also apply to storage and handling of flammable liquids at road construction, earth moving projects, gravel pits and borrow pits, or wherever it is customary to obtain fuels in bulk and dispense or transfer them under control of the owner or contractor and where isolation from other structures make it unnecessary to require compliance with the more rigid standards of section Ind 8.01 through section Ind 8.92 of this code.

(b) The provisions of section Ind 8.991 shall not apply to the storage of fuel oil for oil burning equipment.

(2) Types of Approved Storage. Storage of flammable liquids on farms and construction projects for private use shall be permitted in any of the following:

(a) In above ground or underground tanks in accordance with sections Ind 8.20, 8.21, and 8.22.

(b) In containers of 60 gallons or less capacity each, in accordance with the provisions of section Ind 8.991(3).

(c) In tanks of 61 to 1100 gallons capacity each, in accordance with the provisions of section Ind 8.991(4).

(3) Individual Containers of 60 Gallons or Less Capacity Each. (a) Containers shall be substantial closed metal drums. Discharge devices requiring pressure on the container are prohibited. Pumping devices or faucets used for dispensing flammable liquids shall be well maintained to prevent leakage. Individual containers shall not be interconnected.

(b) Containers as provided in this section shall be stored outside at least 40 feet from any building or may be stored inside of a building used exclusively for the storage of flammable liquids and located at least 40 feet from any other building. Buildings used for storage of flammable liquids shall be provided with cross ventilation with at least two vents of 64 square inches in area each,

placed at floor level.

(4) Tanks of 61 to 1100 Gallons Capacity Each. (a) Flammable liquids in aboveground tanks of 61 to 1100 gallons capacity shall be stored outside buildings in tanks of single compartment design constructed in accordance with accepted engineering practice. Joints shall be riveted and caulked, riveted and welded, or welded. Tank heads over 6 feet in diameter shall be dished, stayed, braced or reinforced. Tanks shall meet the following:

CAPACITY Gallons	MINIMUM THICKNESS OF STEEL Mfrs. Std. Gage No.
61 to 275	14
276 to 550	12
551 to 1100	10

(b) A fill opening shall be provided and shall be equipped with a closure designed so that it may be locked.

(c) A vent having a free opening of at least 1-1/2 inches diameter shall be provided to relieve such vacuum or pressure as will develop in normal operation or from exposure to fire.

(d) Aboveground tanks as described in section Ind 8.991(4)(a) shall be kept outside and at least 40 feet from any building and shall be so located or such additional distance from buildings shall be maintained to insure that any vehicle, equipment or vessel being filled directly from such tank will be at least 40 feet from any building.

(e) Tanks as described in section Ind 8.991(4) may be of either of the following types: 1. Tanks with Top Openings Only. Tanks constructed and located as provided in section Ind 8.991(4)(a)(b)(c) and (d) may be designed with all openings in the top of the tank and in such event shall be mounted and equipped as follows: a. Stationary tanks shall be mounted on timbers or blocks approximately 6 inches in height in a stable position. Portable tanks may be equipped with

attached metal legs resting on shoes or runners to be at least one tank diameter apart, which in turn rest upon the ground, designed so that the tank is supported in a stable position and so that the entire tank and its supports may be moved as a unit.

b. Tanks shall be equipped with a tightly and permanently attached approved pumping device having an approved hose of sufficient length for filling vehicles, equipment or vessels to be served from the tank. Either the pump or the hose shall be padlocked to its hanger when not in use. An effective anti-siphoning device shall be included in the pump discharge. Siphons or internal pressure discharge devices are prohibited.

2. Tanks Elevated for Gravity Discharge. Tanks constructed and located as provided in section Ind 8.99l(4)(e)l. may be provided with an opening in the bottom or the end of the tank for gravity dispensing of flammable liquids and shall be mounted and equipped as follows:

a. Supports to elevate the tank for gravity discharge shall be of adequate strength and design to provide stability.

b. Alternately the tank may be placed on a pile of earth or near the edge of a cut bank to provide the necessary elevation, and may be supported on timbers or blocks to provide stability.

c. Bottom opening for gravity discharge shall be equipped with an internal valve that will close automatically in the event of fire through the operation of an effective heat actuated releasing device, and shall be supplemented by a second valve that can be operated manually. The gravity discharge outlet shall be provided with an approved hose equipped with a self-closing valve at the discharge end, of a type that can be padlocked to its hanger to prevent tampering.

(5) Marking of Tanks and Containers. (a) Containers for the storage of flammable liquids shall be conspicuously marked with the name of the product contained. Tanks of 61 to 1100 gallon capacity shall bear the words FLAMMABLE - KEEP FIRE AWAY and the additional marking KEEP 40 FEET FROM BUILDINGS. All lettering required

shall be at least 1 inch in height.

(b) Clearance of 40 feet from buildings shall also apply to other combustible structures, hay stacks, and similar hazards.

(c) Tanks and containers of 275 gallons or less capacity for the storage of flammable liquids which flash at 110° F. or below shall be painted a bright red.

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The rules, amendments and repeals herein shall take effect on January 1, 1961 as provided in Section 227.

INDUSTRIAL COMMISSION OF WISCONSIN

Secretary

November 17, 1960