

**REGULATION 8
ORGANIC COMPOUNDS
RULE 6
ORGANIC LIQUID BULK TERMINALS AND BULK PLANTS**

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8-6-100 GENERAL

8-6-101 Description: The purpose of this rule is to limit emissions of organic compounds as defined in Section 8-6-207 from transfer operations at non-gasoline organic liquid bulk terminals and bulk plants. (Amended March 17, 1982; February 2, 1994)

8-6-110 Exemption, Low Vapor Pressure Organic Liquids: Until December 1, 1994, the requirements in this Rule shall not apply to loading or delivery of any organic liquid having a true vapor pressure less than 77.5 mmHg (1.5 psia). After December 1, 1994, the requirements of this Rule shall not apply to loading and delivery of any organic liquid having a true vapor pressure less than 25.8 mmHg (0.5 psia), as determined by the methods specified in Sections 8-6-603 or 604. (Amended February 2, 1994)

8-6-111 Exemption, Low Throughput: The vapor recovery requirements of subsection 8-6-302.1 do not apply when the total annual throughput of organic liquids with at least 77.5 mmHg (1.5 psia) true vapor pressure transferred into delivery vehicles only is less than 2,271 cubic meters (600,000 gallons) on a facility-wide basis. (Amended February 2, 1994)

8-6-112 Deleted February 2, 1994

8-6-113 Deleted February 2, 1994

8-6-114 Exemption, Maintenance and Repair: The requirements of Section 8-6-306 shall not apply to spills resulting from maintenance or repair operations provided proper operating practices are employed to minimize evaporation of organic compounds into the atmosphere.

8-6-115 Exemption, Bulk Gasoline Distribution Facilities: Gasoline bulk terminals and bulk plants are not subject to the requirements of this rule. Such facilities are subject to the provisions of Regulation 8, Rules 33 or 39. (Adopted November 30, 1983; Amended February 2, 1994)

8-6-116 Exemption, Small Transportable Containers: The requirements of subsection 8-6-302.2 shall not apply to loading organic liquids into any transportable container with a capacity less than 0.114 cubic meters (30 gallons). (Amended February 2, 1994)

8-6-117 Exemption, Liquefied Organic Gases: The requirements of this rule do not apply to transfer operations involving liquefied organic gases such as liquefied petroleum gas (LPG) and halogenated gases. (Amended February 2, 1994)

8-6-200 DEFINITIONS

8-6-201 Bulk Plant: Until December 1, 1994, any storage and distribution facility that receives organic liquid by pipeline, railcar, and/or delivery vehicle; stores it in stationary tanks; and/or mixes it in blending tanks; and/or loads it into delivery vehicles or transportable containers, for delivery to distributors, marketers or any product end user; and which has an annual throughput of not more than 22,710 cubic meters (6,000,000 gallons). After December 1, 1994, the annual throughput shall include organic liquids of at least 25.8 mmHg (0.5 psia) true vapor pressure. (Amended July 2, 1980; February 2, 1994)

8-6-202 Deleted February 2, 1994

8-6-203 Submerged Fill Pipes: Any discharge pipe, lance, or nozzle which meets either of the following conditions:

203.1 Where the vessel is filled from the top, the end of the discharge pipe or nozzle must be submerged when the liquid level is 15 centimeters (6 inches) from the bottom of the vessel. When the vessel is filled from the top with a

retractable lance, the lance shall remain below the liquid surface during the transfer operation.

203.2 Where the vessel is filled from the side, the discharge pipe or nozzle must be totally submerged when the liquid level is 46 centimeters (18 inches) from the bottom of the vessel.

(Renumbered March 17, 1982; Amended February 2, 1994)

8-6-204 Bulk Terminal: Until December 1, 1994, any storage and distribution facility that receives organic liquid; stores it in stationary tanks; and/or mixes it in blending tanks; and/or loads it into delivery vehicles and transportable containers, for delivery to distributors, marketers or any product end user; and which has an annual throughput of more than 22,710 cubic meters (6,000,000 gallons). After December 1, 1994, the annual throughput shall include organic liquids of at least 25.8 mmHg (0.5 psia) true vapor pressure. (Renumbered March 17, 1982; Amended February 2, 1994)

8-6-205 True Vapor Pressure: The pressure exerted when an organic liquid is in equilibrium with its own vapor at 25°C (77°F). For liquid mixtures, true vapor pressure is the sum of the equilibrium partial pressures exerted by all organic compounds in the liquid and can be estimated using Raoult's Law as follows:

$$P^* = \sum_{i=1}^n \frac{(w_i)(VP_i) / MW_i}{\frac{W_w}{MW_w} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

W_i = Weight of the "i"th organic compound, in grams

W_w = Weight of water, in grams

MW_i = Molecular weight of the "i"th organic compound, in grams/gram-mole

MW_w = Molecular weight of water, in grams/gram-mole

P^* = True vapor pressure of liquid mixture at 25°C, in mmHg

VP_i = Vapor pressure of the "i"th organic compound at 25°C, in mmHg

For organic liquids and organic liquid mixtures to which heat is applied, the true vapor pressure shall be determined at 25°C (77°F) or the actual loading temperature, whichever is higher.

(Renumbered March 17, 1982; Amended February 2, 1994)

8-6-206 Vapor Tight: A leak less than 100 percent of the Lower Explosive Limit on a portable hydrocarbon detector measured at a distance of 1 centimeter from the source.

(Renumbered March 17, 1982; Amended February 2, 1994)

8-6-207 Organic Compound: Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides of carbonates, and ammonium carbonate. (Adopted February 2, 1994)

8-6-208 Loading Equipment: Any combination of loading arms, pumps, flexible hosing, dispensing nozzles, meters, and other piping and valves necessary to fill delivery vehicles or transportable containers with organic liquids. (Adopted February 2, 1994)

8-6-209 Organic Liquid: Any organic compound or mixture of organic compounds that exists in the liquid phase at actual loading conditions. For the purposes of this rule, organic liquids shall not include coatings, adhesives and sealants.

(Adopted February 2, 1994)

8-6-210 Transportable Containers: Any portable enclosed vessel such as a tote tank or cylindrical drum, which contains 550 gallons or less and is used to transport and distribute organic liquids. (Adopted February 2, 1994)

8-6-211 Leak Free: An organic liquid leak not exceeding three drops per minute excluding losses which occur upon disconnecting transfer fittings. Such disconnect losses shall not exceed 10 milliliters (ml) during a bottom loading operation or no more than two milliliters (ml) during a top loading operation, averaged over three disconnects.

Adopted February 2, 1994)

8-6-212 Delivery Vehicle: Any motor truck or truck trailer equipped with a stationary cargo tank having a capacity more than 550 gallons and designed and built for the transportation of organic liquids. (Adopted February 2, 1994)

- 8-6-213 Switch Loading:** For the purpose of this rule, switch loading refers to the transfer of organic liquids into a delivery vehicle cargo tank, which results in displacement of organic vapors remaining from a previous load. (Adopted February 2, 1994)
- 8-6-214 Vapor Loss Control System:** A system for reducing emissions to the atmosphere, consisting of an abatement device and a collection system, which achieves the abatement efficiency or emission limit specified in the applicable standard(s) during the transfer operation and meets the requirements of Regulation 2, Rule 1. (Adopted February 2, 1994)
- 8-6-215 Liquefied Petroleum Gas:** A compressed gas composed of one or more of the following flammable hydrocarbons (propane, n-butane, isobutane, propylene, and butylenes), which is used especially as a fuel or as raw material for chemical synthesis. (Adopted February 2, 1994)
- 8-6-216 Vapor Balance System:** A piping system that is designed to collect organic vapors displaced from organic liquid transfer operations, and to route the collected vapors to the vessel from which the liquid being loaded originated. (Adopted February 2, 1994)
- 8-6-217 Throughput:** The total volume of organic liquid transferred into delivery vehicles and transportable containers. The volume of water in an organic liquid/water mixture shall not be considered part of the facility throughput. (Adopted February 2, 1994)
- 8-6-300 STANDARDS**
- 8-6-301 Bulk Terminal Limitations:** A person shall not transfer or allow the transfer of organic liquids from bulk terminal loading equipment unless a vapor loss control system is properly connected and used. Such transfer operations shall not emit into the atmosphere more than 21 grams of organic compounds per cubic meter (0.17 pounds per 1,000 gallons) of organic liquid loaded. Switch loading shall be subject to this standard. (Amended March 17, 1982; February 2, 1994)
- 8-6-302 Bulk Plant Limitations:** A person shall not load or allow the loading of any organic liquid from bulk plant loading equipment unless the following requirements are satisfied:
- 302.1 Vapor Recovery Requirement: Any emissions displaced while transferring an organic liquid with a true vapor pressure of at least 77.5 mmHg (1.5 psia) into a delivery vehicle shall be controlled by a vapor balance system or a vapor loss control system, which is properly connected and used during loading. Emissions to atmosphere shall not exceed 44 grams of organic compounds per cubic meter (0.35 pounds per 1,000 gallons) of organic liquid loaded.
- 302.2 Submerged Fill Requirement: Except as provided in Section 8-6-116, either a submerged fill pipe, bottom filling, or a vapor loss control system shall be used when transferring an organic liquid into a delivery vehicle or transportable container. When a vapor loss control system is used, emissions to atmosphere shall not exceed 44 grams of organic compound per cubic meter (0.35 pounds per 1000 gallons) of organic compound loaded. (Amended July 2, 1980; February 2, 1984)
- 8-6-303 Deleted February 2, 1994**
- 8-6-304 Deliveries to storage Tanks:** A person shall not transfer or allow the transfer of any organic liquid with a true vapor pressure of at least 77.5 mmHg (1.5 psia) into any bulk terminal or bulk plant storage tank having a capacity between 7.6 and 150 cubic meters, (2,008 and 39,630 gallons) inclusive, unless a vapor balance system or vapor loss control system, has been properly installed on the storage tank and is properly connected during delivery. Emissions to atmosphere shall not exceed 21 grams of organic compounds per cubic meter (0.17 pounds per 1,000 gallons) of organic compound loaded. (Amended February 2, 1994)
- 8-6-305 Delivery Vehicle Requirements:** Any delivery vehicle loaded at a terminal or bulk plant which is subject to the requirements of Sections 8-6-301 or 302.1 shall be equipped to allow proper connection to the vapor balance system or vapor loss

control system required by the section and shall be maintained to be vapor tight, leak free, and in good working order. (Amended February 2, 1994)

8-6-306 Equipment Maintenance: All equipment associated with organic liquid delivery and loading operations shall be maintained to be vapor tight, leak free and in good working order. (Amended February 2, 1994)

8-6-307 Operating Practices: Any organic liquid subject to this Rule shall not be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation to the atmosphere. (Amended February 2, 1994)

8-6-400 ADMINISTRATIVE REQUIREMENTS

8-6-401 Deleted February 2, 1994

8-6-402 Deleted February 2, 1994

8-6-403 Compliance Schedule: Any person who must install or modify equipment to comply with the requirements of Sections 301, 302 or 304 shall comply with the following increments of progress:

403.1 By June 1, 1994 submit a completed application to the APCO for an Authority to Construct.

403.2 After December 1, 1994 be in final compliance. (Adopted February 2, 1994)

8-6-500 MONITORING AND RECORDS

8-6-501 Records: After December 1, 1994, a person whose loading equipment is subject to this rule shall comply with the following requirements:

501.1 A person shall maintain a current record of the true vapor pressure of each organic liquid and organic liquid mixture.

501.2 A person shall maintain monthly records that provide the throughput (gallons) of each organic liquid and organic liquid mixture transferred into delivery vehicles and transportable containers with at least 25.8 mmHg (0.5 psia) true vapor pressure.

501.3 Such records shall be retained for the previous 24-month period and be available to the APCO upon request. (Adopted February 2, 1994)

8-6-502 Portable Hydrocarbon Detector: Any instrument used for the measurement of organic compounds shall meet the specifications and performance criteria, and shall be calibrated in accordance with EPA Reference Method 21 (40CFR60, Appendix A). (Adopted February 2, 1994)

8-6-503 Burden of Proof: The burden of proof of eligibility for exemption from the requirements of this rule is on the applicant. Persons seeking such an exemption shall maintain adequate records and furnish them to the APCO upon request. (Adopted February 2, 1994)

8-6-600 MANUAL OF PROCEDURES

8-6-601 Efficiency and Rate Determination: The means for determining compliance with Sections 8-6-301, 302, and 304 are set forth in the Manual of Procedures, Volume IV, ST-3 or ST-34. (Amended March 17, 1982; February 2, 1994)

8-6-602 Deleted February 2, 1994

8-6-603 Analysis of Samples, True Vapor Pressure: Samples of organic compounds as specified in Section 8-6-110 shall be analyzed for true vapor pressure at 25°C (77°F), as prescribed in the Manual of Procedures, Volume III, Method 28. For organic liquids and organic liquid mixtures to which heat is applied, the true vapor pressure shall be determined at 25°C (77°F) or the actual loading temperature, whichever is higher.

(Adopted March 17, 1982; Amended February 2, 1994)

8-6-604 Determination of Applicability: Any of the following methods may be used to determine if an organic liquid is subject to the requirements of this rule based on its true vapor pressure:

604.1 EPA-450/3-87-026 (Exhibit A-2 in Appendix A or Appendix D), or

- 604.2 Standard reference texts, or
- 604.3 For liquid mixtures, use Raoult's Law of Partial Pressures as defined in Section 8-6-205 or ASTM Method D 2879-83. (Adopted February 2, 1994)