

**REGULATION 8
ORGANIC COMPOUNDS
RULE 10
PROCESS VESSEL DEPRESSURIZATION**

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**REGULATION 8
ORGANIC COMPOUND
RULE 10
PROCESS VESSEL DEPRESSURIZATION**

8-10-100 GENERAL

8-10-101 Description: The purpose of this Rule is to limit emissions of precursor organic compounds from depressurizing and opening of process vessels depressurization at petroleum refineries and chemical plants.

(Amended 3/17/82, 7/20/83)

8-10-110 Exemption, Equipment Subject to Other Rules Storage Vessels: ~~The requirements of Section 8-10-301 shall not apply to stationary containers used solely for the storage of an organic liquid. The provisions of this rule shall not apply to vessels that are subject to the following Regulation 8 rules:~~

110.1 Regulation 8, Rule 5: Storage of Organic Liquids

110.2 Regulation 8, Rule 24: Pharmaceutical and Cosmetic Manufacturing Operations

110.3 Regulation 8, Rule 35: Coating, Ink and Adhesive Manufacturing

110.4 Regulation 8, Rule 36: Resin Manufacturing

110.5 Regulation 8, Rule 41: Vegetable Oil Manufacturing Operations

110.6 Regulation 8, Rule 50: Polyester Resin Operations

110.7 Regulation 8, Rule 52: Polystyrene, Polypropylene, and Polyethylene Foam Product Manufacturing Operations

~~**8-10-111 Exemption, Chemical Plants:** The provisions of Section 8-10-301 shall not apply to chemical plants until January 1, 1985.~~

(Adopted 7/20/83)

~~**8-10-112 Limited Exemption, Measurement Periods:** The provisions of Section 8-10-301 shall not apply while a process vessel is opened for a period of time reasonably necessary for measurements to determine compliance with the concentration and mass emission limits of this rule.~~

~~**8-10-113 Exemption, Small Vessels:** The provisions of this Rule shall not apply to any process vessel with a volume of less than 100 cubic feet (ft³).~~

~~**8-10-114 Exemption, Batch Processes:** The provisions of this rule shall not apply to any process vessel used in a batch process operation that requires periodic vessel opening as part of the routine operation of the vessel, including but not limited to delayed coking vessels.~~

8-10-200 DEFINITIONS

8-10-201 Chemical Plant: Any facility engaged in producing organic or inorganic chemicals and/or manufacturing products by chemical processes. Any facility or operation that has ~~28~~ 325 as the first two three digits in their ~~Standard Industrial Classification Code~~ as determined from the ~~Standard Industrial Classification Manual published in 1972 by the Executive Office of the President, Office of Management and Budget~~ North American Industrial Classification Standard (NAICS) code. Chemical plants may include, but are not limited to the manufacture of: industrial inorganic and organic chemicals; plastic and synthetic resins, synthetic rubber, synthetic and other man made fibers; drugs; soap, detergents and cleaning preparations, perfumes, cosmetics and other toilet preparations; paints, varnishes, lacquers, enamels and allied products; agricultural chemicals; safflower and sunflower oil extracts; re-refining.

(Adopted 7/20/83)

~~**8-10-202 Petroleum Refinery:** Any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants or other products through distillation of petroleum or through redistillation, cracking, rearrangement or reforming of~~

~~unfinished petroleum derivatives. Any facility that processes petroleum, as defined in the North American Industrial Classification Standard No. 32411 (1997). (Adopted 7/20/83)~~

8-10-203 Process Unit: A manufacturing process which is independent of other processes and is continuous when supplied with a constant feed of raw materials and sufficient storage facilities for the final product. (Adopted 7/20/83)

8-10-204 Process Vessel: Any vessel in which organic compounds are fractionated ~~on more than one tray or on packing, or~~ chemically reacted, ~~or~~ washed or purified. These vessels shall include but are not limited to reactors, columns, accumulator vessels, knockout pots, surge/settling drums and other similar devices. (Renumbered 7/20/83)

8-10-205 Organic Compound: Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate.

8-10-206 Total Organic Compound: All organic compounds of carbon including methane, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate.

8-10-300 STANDARDS

8-10-301 Process Vessel Depressurizing: ~~The control Emissions of precursor organic compounds emissions from depressurizing any process vessel at a petroleum refinery or a chemical plant during a process unit turnaround shall be accomplished so that the organic compounds, after passing through a knockout pot to remove the condensable fraction, must either be:~~ controlled by venting them to a

- ~~301.1 Recovered (add to the fuel gas system) and combusted,~~
- ~~301.2 Controlled and piped to an appropriate firebox, or incinerator, thermal oxidizer, for combustion,~~
- ~~301.3 Flared, or otherwise~~
- ~~301.4 Contained and treated~~ing them so as to prevent their emissions to the atmosphere. Such procedures shall continue until the pressure within the process vessel is as close to atmospheric pressure as practicably possible, in no case shall a process vessel be vented to the atmosphere until the partial pressure of organic compounds in that vessel is less than 1000 mm Hg (4.6 psig).

(Amended 3/17/83, 3/20/83)

8-10-302 Opening of Process Vessels: Effective July 1, 2004, no process vessel may be opened to the atmosphere unless the following requirements are met:

302.1 No process vessel may be opened to the atmosphere unless the internal concentration of total organic compounds has been reduced prior to release to atmosphere to less than 10,000 parts per million (ppm), expressed as methane (C₁) except as provided in Section 8-10-302.2.

302.2 A process vessel at a refinery or chemical plant may be opened when the internal concentration of total organic compounds is 10,000 ppm or greater provided that the total number of such vessels opened with such concentration during any consecutive five year period does not exceed 10% of the total process vessel population as documented pursuant to section 8-10-401, and the organic compound emissions from the opening of these vessels shall not exceed 15 pounds per day. Vessels with an internal concentration of total organic compounds of 10,000 ppm or greater shall not be opened on any day on which the APCO predicts an exceedance of a National Ambient Air Quality Standard for ozone or declares a Spare the Air Day.

8-10-400 ADMINISTRATIVE REQUIREMENTS

8-10-401 Turnaround Records Reporting: ~~Refinery personnel shall keep records of each process unit turnaround, listing as a minimum:~~

~~401.1 The date of unit shutdown and/or depressurizing,~~

~~401.2 The approximate process vessel hydrocarbon concentration when the organic emissions were first discharged into the atmosphere, and~~

~~401.3 The approximate quantity of total precursor organic compounds emitted into the atmosphere. These records shall be kept for at least two (2) years and be made available to the APCO during any compliance inspection.~~

Any facility subject to the provisions of this rule shall submit an annual report to the Air Pollution Control Officer (APCO) containing the elements of Section 8-10-502. The annual report shall be submitted by February 1 of each year. By April 1, 2004, any facility subject to the provisions of this rule shall submit an initial report that lists all process vessels, it's volume in cubic feet, and it's service type. The list shall be updated yearly, as necessary, and submitted with the annual report.

(Amended 3/17/82, 7/10/83)

8-10-402 Increments of Progress: ~~A person who must modify existing sources or install new control equipment at chemical plants to comply with the requirements of this Rule shall comply with the following compliance schedule:~~

~~402.1 January 1, 1984: Submit to the APCO final control plan which describes, as a minimum, the steps, including a construction schedule, that will be taken to achieve compliance with such requirements.~~

~~402.2 July 1, 1984: Submit a completed application for any Authority to Construct necessary to achieve compliance with such requirements.~~

~~402.3 January 1, 1985: Be in compliance with all the requirements of this Rule.~~

(Amended July 20, 1983)

8-10-500 MONITORING AND RECORDS

8-10-501 Monitoring: Any vessel subject to this rule shall be monitored for the concentration of total organic compounds prior to opening and once per day during the time the vessel is open to the atmosphere. The sample shall be a representative sample of the internal atmosphere of the vessel. This section shall not apply if it can be demonstrated that the concentration of total organic compounds has been reduced to a concentration equal to or less than 100 ppm for three consecutive days.

8-10-502 Concentration Measurement: The meter used to measure the concentration of total organic compound emissions shall meet the accuracy requirements specified in EPA Method 21.

8-10-503 Records: Any facility subject to the provisions of this rule shall keep records of each vessel depressurization. The records shall include the following information:

503.1 The date, time, type of activity, and duration of depressurization and vessel opening.

503.2 The type of service, size and name or vessel identification number.

503.3 The measured total organic compound concentration and calculated mass emissions from each depressurized vessel, including the sample location and any assumptions made in calculating the mass emissions, and

503.4 The number and size of any air movers used to assure compliance with confined space entry requirements.

503.5 Records shall be maintained for at least 5 years and shall be made available to the APCO for inspection at any time.

8-10-600 MANUAL OF PROCEDURES

8-10-601 Monitoring Procedures: The procedures used to monitor emissions are set forth in EPA Method 21 (40 CFR Part 60, Appendix A).