

PART 236**SYNTHETIC ORGANIC CHEMICAL MANUFACTURING FACILITY
COMPONENT LEAKS**

(Statutory authority: Environmental Conservation Law, §§3-0301, 19-0301.1)

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| Sec. | |
| 236.1 | Definitions |
| 236.2 | Applicability |
| 236.3 | Control requirements |
| 236.4 | Repair requirements |
| 236.5 | Recordkeeping and reporting requirements |
| 236.6 | Exemptions |
| 236.7 | Monitoring |
| 236.8 | Table 1 |

Historical Note

Part (§§236.1-236.8) filed Dec. 13, 1991 eff. 30 days after filing.

§ 236.1 Definitions.

- (a) For the purpose of this Part, the general definitions of Part 200 of this Title apply.
- (b) For the purpose of this Part, the following definitions also apply:
- (a) *CAS number.* Chemical Abstracts Service registration number assigned to specific chemicals, isomers, or mixtures of chemicals.
- (2) *Component.* Any piece of process unit equipment which has the potential to leak a chemical listed in section 236.8, table 1, of this Part when monitored as prescribed by section 236.7 of this Part. These include, but are not limited to: pumps, compressors, valves, open-ended pipes, and pressure relief devices. Excluded from these are valves which are not externally operated.
- (3) *Department.* The New York State Department of Environmental Conservation.
- (4) *Double block-and-bleed system.* Two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.
- (5) *Initial attempt to repair.* To take rapid action to repair leaks. These include, but are not limited to: tightening or replacing bonnet bolts, tightening packing bolts or glands, or injecting lubricant into lubricated packing.
- (6) *In gas/vapor service.* Any equipment which processes, transfers, or contains a chemical or mixture of chemicals in the gaseous phase having a concentration greater than 10 percent by weight of the chemicals listed in section 236.8, table 1, of this Part.
- (7) *In heavy liquid service.* Any equipment which processes, transfers, or contains a fluid and is not in gas/vapor or light liquid service.
- (8) *In light liquid service.* Any equipment which processes, transfers, or contains a fluid having a vapor pressure greater than 0.3 kilopascals at 20°C (0.0427 psia at 68°F) and having a concentration greater than 10 percent by weight of the chemicals listed in section 236.8, table 1, of this Part.
- (9) *In vacuum service.* Equipment operating at an internal pressure at least 5 kilopascals (0.712 psia) below ambient pressure.
- (10) *Leak.* The emission of a chemical listed in section 236.8, table 1, of this Part at a concentration greater than or equal to 10,000 parts per million by volume (ppmv) as shown by monitoring. An indication of liquids dripping shall also be considered a leak.
- (11) *Liquids dripping.* Any visible leakage from a seal or opening including, but not limited to: dripping, spraying, misting, clouding, or ice formation.

(12) *Open-ended valve or line.* Any valve having one side of the valve seat in contact with the process fluid and one side open to the atmosphere either directly or through open piping. Pressure relief valves are an exception to this definition.

(13) *Process unit.* Components assembled to produce, as an intermediate or final product, one or more of the chemicals listed in section 236.8, table 1, of this Part.

(14) *Process unit shutdown.* A scheduled work practice or operational procedure that stops production from all or part of a process unit. Process unit shutdowns do not include unscheduled work practice or operational procedures that stop production from all or part of a process unit for less than 24 hours, or the use of spare equipment or a technically feasible bypass without stopping production.

(15) *Repair.* To adjust or otherwise alter a component to eliminate a leak.

(16) *Synthetic organic chemical manufacturing facility.* A facility which manufactures, as an intermediate or final product, one or more of the synthetic organic chemicals, polymers and resins listed in section 236.8, table 1, of this Part.

Historical Note

Sec. filed Dec. 13, 1991 eff. 30 days after filing.

§ 236.2 Applicability.

(a) Any owner or operator of a synthetic organic chemical manufacturing facility where such chemicals were being produced prior to the effective date of this Part, must:

(1) prepare a leak detection and repair plan in accordance with section 236.5 of this Part; and

(2) be in compliance with the provisions of this Part within 180 days of the effective date of this Part.

(b) Any owner or operator of a synthetic organic chemical manufacturing facility where such chemicals are first manufactured on or after the effective date of this Part is required to demonstrate compliance with this Part upon start-up.

(c) Components subject to Federal regulations which require either an equal or more stringent leak detection and repair program (*i.e.*, equivalent or lower definition of leak and equivalent or more frequent monitoring requirements), or equal or more stringent equipment specifications, are deemed to be in compliance with the provisions of this Part contingent on the source owner or operator complying with such Federal regulations.

Note: The department is cognizant of pending National Emission Standards for Hazardous Air Pollutants which regulate process unit components to control fugitive emissions of volatile hazardous air pollutants. These standards would regulate many of the same components as Part 236. Where the Federal standards are adopted to be more stringent than those of Part 236, the department will accept compliance with the Federal standards in lieu of compliance with this Part, contingent on the adoption and implementation of the Federal standards.

Historical Note

Sec. filed Dec. 13, 1991 eff. 30 days after filing.

§ 236.3 Control requirements.

(a) Any owner or operator of a synthetic organic chemical manufacturing facility must monitor each of the following process unit components for leaks, on a quarterly schedule:

- (1) each pump in light liquid service;
- (2) each compressor in gas/vapor service;
- (3) each pressure relief valve in gas/vapor service;
- (4) each valve in light liquid service; and

(5) each valve in gas/vapor service.

(b) Leaks detected in any of the monitored components must be repaired in accordance with the provisions set forth in section 236.4 of this Part.

(c) Any owner or operator of a synthetic organic chemical manufacturing facility must also comply with the following component standards:

(1) Pumps in light liquid service must be visually inspected each calendar week for evidence of liquids dripping. Any leaks detected during visual inspection must be repaired in accordance with section 236.4 of this Part.

(2) Pressure relief devices in gas/vapor service must be monitored for leaks within five days of an over-pressure release. Any leaks detected during monitoring must be repaired in accordance with section 236.4 of this Part.

(3) Open-ended valves or lines in gas/vapor or light liquid service must be sealed with either a second valve, blind flange, cap, or plug. The sealing device may only be removed while a sample is being taken or during maintenance operations.

(i) When a second valve is used, each open-ended line or valve equipped with a second valve shall be operated in such a manner that the valve on the process fluid end is closed before the second valve is closed.

(ii) When a double block-and-bleed system is used, the bleed valve or line may remain open only during operations that require venting of the line between the block valves, but shall be closed at all other times.

Historical Note

Sec. filed Dec. 13, 1991 eff. 30 days after filing.

§ 236.4 Repair requirements.

(a) Any owner or operator of a synthetic organic chemical manufacturing facility shall repair leaking components in accordance with this section.

(b) Once a leaking component is identified, any owner or operator subject to this Part must:

(1) affix a weatherproof and readily visible tag to the leaking component bearing an identification number and the date the leak was detected. This tag must not be removed until the component is repaired and passes reinspection;

(2) make an initial attempt to repair the leaking component within five days;

(3) repair the leaking component as soon as practicable, but not later than 15 calendar days after the leak is detected; and

(4) remonitor all leaking components within 48 hours after repairs have been completed.

(c) Delay of repair of components as described in subdivision (b) of this section will be allowed by the department provided that an initial attempt to repair is made after which a decision is made by a duly authorized representative of the facility that replacement parts necessary to complete the repair are not available in time, or that repair of the leaking component is technically infeasible without a process unit shutdown. Repair of such a component must be completed during the next process unit shutdown and before subsequent start-up.

(d) The department may require the rescheduling of a planned process unit shutdown to an earlier date based on the number and severity of tagged leaks awaiting repair at shutdown. Before requiring a rescheduled shutdown, the department shall consider the effect of the shutdown on production, the availability of needed repair equipment, and the time required for contracting outside labor and/or rescheduling facility personnel and shall so direct the source owner in writing to comply with the rescheduled shutdown. The source owner shall comply with the department's directive, or shall request that a directed rescheduling of a planned process unit shutdown be reconsidered according to the following procedure:

(1) A request for reconsideration must be filed in writing with the department within 20 days of the receipt of the department's directed rescheduling, and must be signed by a duly authorized representative of the facility.

(2) Such request must include a statement supporting the source owner's claims of misapplication of laws or regulations in the department's directive, and a statement specifying the relief sought by the source owner.

Historical Note

Sec. filed Dec. 13, 1991 eff. 30 days after filing.

§ 236.5 Recordkeeping and reporting requirements.

The owner or operator of a synthetic organic chemical manufacturing facility subject to this Part must do the following:

(a) develop and conduct a leak detection and repair plan consistent with the provisions of this Part;

(b) within 180 days after the effective date of this Part, implement a leak detection and repair plan. The plan must contain as a minimum a list of process components subject to the provisions of this Part, a copy of the log book format, and the make and model of the monitoring equipment to be used;

(c) record the following information in an inspection log for each leaking component found:

(1) name of process unit where the component is located;

(2) tag identification number;

(3) type of component;

(4) date on which the leak was detected for the component;

(5) date on which the component was repaired;

(6) identification of those components which cannot be repaired until process unit shutdown, the reason repair must be delayed, and the signature of a duly authorized representative of the facility whose decision was that the leaking component could not be repaired without a process unit shutdown;

(7) the date of each calibration of the monitoring instrument;

(8) date and monitor instrument reading detected after the component is repaired; and

(9) total number of components monitored and the total number of components found leaking;

(d) a copy of the inspection log must be retained at the plant for a minimum of two years after the date on which the report for the inspection period was prepared, and must be made available to the department upon request; and

(e) commencing 180 days after this Part becomes effective, submit quarterly reports to the department for the preceding quarterly monitoring period. These reports must be submitted within 15 days from the close of the quarter, and shall consist of:

(1) number and type of leaking components located, but not repaired within 15 days;

(2) number and type of leaking components awaiting process unit shutdown for repair;

(3) number and type of components inspected;

(4) number and type of components repaired;

(5) elapsed time to repair each leaking component; and

(6) a signed statement by a duly authorized representative of the facility attesting to the fact that, with the exception of those components listed in paragraphs 236.6 (e)(1) and (2) of this Part, all inspections and repairs were performed in accordance with the leak detection and repair plan.

Historical Note

Sec. filed Dec. 13, 1991 eff. 30 days after filing.

§ 236.6 Exemptions.

(a) Any components not in gas/vapor or light liquid service are exempt from the provisions of this Part provided that the owner or operator keeps documentation at the facility proving which components are exempt.

(b) Any components in vacuum service are exempt from the provisions of this Part provided that the owner or operator keeps documentation at the facility proving which components are exempt.

(c) Any components in process units which produce chemicals listed in section 236.8, table 1, of this Part as byproducts which are not sold and are not used in another process as an intermediate product, are exempt.

(d) Any components in process units which produce chemicals listed in section 236.8, table 1, of this Part which are in gas/vapor or light liquid service fewer than 300 hours per year are exempt from the provisions of this Part provided that the owner or operator keeps documentation at the facility proving which components are exempt.

(e) The department will review and make determination on requests for waivers for the following:

(1) Components that are unsafe to monitor because of extreme temperatures, extreme pressures, location more than two meters (6.6 feet) above a permanent support structure, or for other reasons may be exempt from quarterly monitoring provided that the owner or operator requests a waiver from the department which includes a plan to monitor these components at least once per year.

(2) Components constructed to vent the emissions of chemicals regulated in this Part to an air cleaning installation may be exempt from quarterly monitoring provided that the owner or operator requests a waiver from the department which includes a plan to monitor these components at least once per year. The waiver application must also show that the air cleaning installation provides an overall capture and removal efficiency of at least 81 percent.

(3) An alternative method of compliance with the provisions of this Part may be acceptable if the owner or operator can demonstrate to the department that the methods utilized constitute reasonably available control technology.

Historical Note

Sec. filed Dec. 13, 1991 eff. 30 days after filing.

§ 236.7 Monitoring.

Any person subject to this Part shall determine whether leaks of volatile organic compounds exist by using method 21 of appendix A of 40 CFR 60 (see table 1, section 200.9 of this Title).

Historical Note

Sec. filed Dec. 13, 1991 eff. 30 days after filing.

* CAS numbers are Chemical Abstracts Service registration numbers assigned to specific chemicals, isomers, or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The requirements of this Part apply to all of the chemicals listed, whether CAS numbers have been assigned or not.

§ 236.8 Table 1.

CAS NUMBER AND CHEMICAL NAME OF SYNTHETIC ORGANIC CHEMICALS TO WHICH THIS PART APPLIES

| <i>CAS No.^a</i> | <i>Chemical</i> |
|----------------------------|------------------------|
| 105-57-7 | Acetal |
| 75-07-0 | Acetaldehyde |
| 107-89-1 | Acetaldol |
| 60-35-5 | Acetamide |
| 103-84-4 | Acetanilide |
| 64-19-7 | Acetic Acid |
| 108-24-7 | Acetic anhydride |
| 67-64-1 | Acetone |
| 75-86-5 | Acetone cyanohydrin |
| 75-05-8 | Acetonitrile |
| 98-86-2 | Acetophenone |
| 75-36-5 | Acetyl chloride |
| 74-86-2 | Acetylene |
| 107-02-8 | Acrolein |
| 79-06-1 | Acrylamide |
| 79-10-7 | Acrylic acid |
| 107-13-1 | Acrylonitrile |
| 124-04-9 | Adipic acid |
| 111-69-3 | Adiponitrile |
| (^b) | Alkyl naphthalenes |
| 107-18-6 | Allyl alcohol |
| 107-05-1 | Allyl chloride |
| 1321-11-5 | Aminobenzoic acid |
| 111-41-1 | Aminoethylethanolamine |
| 123-30-8 | p-Aminophenol |
| 628-63-7, 123-92-2 | Amyl acetates |
| 71-41-0 ^c | Amyl alcohols |
| 110-58-7 | Amyl amine |
| 543-59-9 | Amyl chloride |
| 110-66-7 ^c | Amyl mercaptans |
| 1322-06-1 | Amyl phenol |
| 62-53-3 | Aniline |
| 142-04-1 | Aniline hydrochloride |
| 29191-52-4 | Anisidine |
| 100-66-3 | Anisole |
| 118-92-3 | Anthranilic acid |
| 84-65-1 | Anthraquinone |
| 100-52-7 | Benzaldehyde |
| 55-21-0 | Benzamide |
| 71-43-2 | Benzene |
| 98-48-6 | Benzenedisulfonic acid |
| 98-11-3 | Benzenesulfonic acid |
| 134-81-6 | Benzil |
| 76-93-7 | Benzilic acid |
| 65-85-0 | Benzoic acid |
| 119-53-9 | Benzoin |

^b No CAS number(s) have been assigned to this chemical, its isomers, or mixtures containing these chemicals.

^c CAS numbers for some of the isomers are listed, the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

| <i>CAS No.^a</i> | <i>Chemical</i> |
|--|---------------------------|
| 100-47-0 | Benzonitrile |
| 119-61-9 | Benzophenone |
| 98-07-7 | Benzotrichloride |
| 98-88-4 | Benzoyl chloride |
| 100-51-6 | Benzyl alcohol |
| 100-46-9 | Benzylamine |
| 120-51-4 | Benzyl benzoate |
| 100-44-7 | Benzyl chloride |
| 98-87-3 | Benzyl dichloride |
| 92-52-4 | Biphenyl |
| 80-05-7 | Bisphenol A |
| 10-86-1 | Bromobenzene |
| 27497-51-4 | Bromonaphthalene |
| 106-99-0 | Butadiene |
| 106-98-9 | 1-butene |
| 123-86-4 | n-butyl acetate |
| 141-32-2 | n-butyl acrylate |
| 71-36-3 | n-butyl alcohol |
| 78-92-2 | s-butyl alcohol |
| 75-65-0 | t-butyl alcohol |
| 109-73-9 | n-butylamine |
| 13952-84-6 | s-butylamine |
| 75-64-9 | t-butylamine |
| 98-73-7 | p-tert-butyl benzoic acid |
| 107-88-0 | 1,3-butylene glycol |
| 123-72-8 | n-butyraldehyde |
| 107-92-6 | Butyric acid |
| 106-31-0 | Butyric anhydride |
| 109-74-0 | Butyronitrile |
| 105-60-2 | Caprolactam |
| 75-1-50 | Carbon disulfide |
| 558-13-4 | Carbon tetrabromide |
| 56-23-5 | Carbon tetrachloride |
| 9004-35-7 | Cellulose acetate |
| 79-11-8 | Chloroacetic acid |
| 108-42-9 | m-chloroaniline |
| 95-51-2 | o-chloroaniline |
| 106-47-8 | p-chloroaniline |
| 35913-09-8 | Chlorobenzaldehyde |
| 108-90-7 | Chlorobenzene |
| 118-91-2, 535-80-8, 744-11-3 ^c | Chlorobenzoic acid |
| 2136-81-4, 2136-89-2, 5216-25-1 ^c | Chlorobenzotrichloride |
| 1321-03-5 | Chlorobenzoyl chloride |
| 25497-29-4 | Chlorodifluoromethane |
| 75-45-6 | Chlorodifluoroethane |
| 67-66-3 | Chloroform |
| 25586-43-0 | Chloronaphthalene |
| 88-73-3 | o-chloronitrobenzene |
| 100-00-5 | p-chloronitrobenzene |
| 25167-80-0 | Chlorophenols |
| 126-99-8 | Chloroprene |

^aCAS numbers for some of the isomers are listed; the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

| <i>CAS No.^a</i> | <i>Chemical</i> |
|---|---|
| 7790-94-5 | Chlorosulfonic acid |
| 108-41-8 | m-chlorotoluene |
| 95-49-8 | o-chlorotoluene |
| 106-43-4 | p-chlorotoluene |
| 75-72-9 | Chlorotrifluoromethane |
| 108-39-4 | m-cresol |
| 95-48-7 | o-cresol |
| 106-44-5 | p-cresol |
| 1319-77-3 | Mixed cresols |
| 1319-77-3 | Cresylic acid |
| 4170-30-0 | Crotonaldehyde |
| 3724-65-0 | Crotonic acid |
| 98-82-8 | Cumene |
| 80-15-9 | Cumene hydroperoxide |
| 372-09-8 | Cyanoacetic acid |
| 506-77-4 | Cyanogen chloride |
| 108-80-5 | Cyanuric acid |
| 108-77-0 | Cyanuric chloride |
| 110-82-7 | Cyclohexane |
| 108-93-0 | Cyclohexanol |
| 108-94-1 | Cyclohexanone |
| 110-83-8 | Cyclohexene |
| 108-91-8 | Cyclohexylamine |
| 111-78-4 | Cyclooctadiene |
| 112-30-1 | Decanol |
| 123-42-2 | Diacetone alcohol |
| 27576-04-1 | Diaminobenzoic acid |
| 95-76-1, 95-82-9, 554-00-7, 8-27-5, 608-31-1, 626-43-7, 27134-27-6, 57311-92-9 ^c | Dichloroaniline |
| 541-73-1 | m-dichlorobenzene |
| 95-50-1 | o-dichlorobenzene |
| 106-46-7 | p-dichlorobenzene |
| 75-71-8 | Dichlorodifluoromethane |
| 111-44-4 | Dichloroethyl ether |
| 107-06-2 | 1,2-dichloroethane (EDC) |
| 96-23-1 | Dichlorohydrin |
| 26952-23-8 | Dichloropropene |
| 101-83-7 | Dicyclohexylamine |
| 109-89-7 | Diethylamine |
| 111-46-6 | Diethylene glycol |
| 112-36-7 | Diethylene glycol diethyl ether |
| 111-96-6 | Diethylene glycol dimethyl ether |
| 112-34-5 | Diethylene glycol monobutyl ether |
| 124-17-7 | Diethylene glycol monobutyl ether acetate |
| 111-90-0 | Diethylene glycol monoethyl ether |
| 112-15-2 | Diethylene glycol monoethyl ether acetate |
| 111-77-3 | Diethylene glycol monomethyl ether |
| 64-67-5 | Diethyl sulfate |
| 75-37-6 | Difluoroethane |
| 25167-70-8 | Diisobutylene |

^aCAS numbers for some of the isomers are listed, the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

| <i>CAS No.^a</i> | <i>Chemical</i> |
|----------------------------|--|
| 26761-40-0 | Diisodecyl phthalate |
| 27554-26-3 | Diisooctyl phthalate |
| 674-82-8 | Diketene |
| 124-40-3 | Dimethylamine |
| 121-69-7 | N,N-dimethylaniline |
| 115-10-6 | N,N-dimethyl ether |
| 68-12-2 | N,N-dimethylformamide |
| 57-14-7 | Dimethylhydrazine |
| 77-78-1 | Dimethyl sulfate |
| 75-18-3 | Dimethyl sulfide |
| 67-68-5 | Dimethyl sulfoxide |
| 120-61-6 | Dimethyl terephthalate |
| 99-34-3 | 3,5-dinitrobenzoic acid |
| 51-28-5 | Dinitrophenol |
| 25321-14-6 | Dinitrotoluene |
| 123-91-1 | Dioxane |
| 646-06-0 | Dioxilane |
| 122-39-4 | Diphenylamine |
| 101-84-8 | Diphenyl oxide |
| 102-08-9 | Diphenyl thiourea |
| 25265-71-8 | Dipropylene glycol |
| 25378-22-7 | Dodecene |
| 28675-17-4 | Dodecylaniline |
| 27193-86-8 | Dodecylphenol |
| 106-89-8 | Epichlorohydrin |
| 64-17-5 | Ethanol |
| 141-43-5 ^c | Ethanolamines |
| 141-78-6 | Ethyl acetate |
| 141-97-9 | Ethyl acetoacetate |
| 140-88-5 | Ethyl acrylate |
| 75-04-7 | Ethylamine |
| 100-41-4 | Ethylbenzene |
| 74-96-4 | Ethyl bromide |
| 9004-57-3 | Ethylcellulose |
| 75-00-3 | Ethyl chloride |
| 105-39-5 | Ethyl chloroacetate |
| 105-56-6 | Ethylcyanoacetate |
| 74-85-1 | Ethylene |
| 96-49-1 | Ethylene carbonate |
| 107-07-3 | Ethylene chlorohydrin |
| 107-15-3 | Ethylenediamine |
| 106-93-4 | Ethylene dibromide |
| 107-21-1 | Ethylene glycol |
| 111-55-7 | Ethylene glycol diacetate |
| 110-71-4 | Ethylene glycol dimethyl ether |
| 111-76-2 | Ethylene glycol monobutyl ether |
| 112-07-2 | Ethylene glycol monobutyl ether acetate |
| 110-80-5 | Ethylene glycol monoethyl ether |
| 111-15-9 | Ethylene glycol monoethyl ether acetate |
| 109-86-4 | Ethylene glycol monomethyl ether |
| 110-49-6 | Ethylene glycol monomethyl ether acetate |

^aCAS numbers for some of the isomers are listed, the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

| <i>CAS No.</i> ^a | <i>Chemical</i> |
|-----------------------------|---|
| 122-99-6 | Ethylene glycol monophenyl ether |
| 2807-30-9 | Ethylene glycol monopropyl ether |
| 75-21-8 | Ethylene oxide |
| 60-29-7 | Ethyl ether |
| 104-76-7 | 2-ethylhexanol |
| 122-51-0 | Ethyl orthoformate |
| 95-92-1 | Ethyl oxalate |
| 41892-71-1 | Ethyl sodium oxalacetate |
| 50-00-0 | Formaldehyde |
| 75-12-7 | Formamide |
| 64-18-6 | Formic Acid |
| 110-17-8 | Fumaric acid |
| 98-01-1 | Furfural |
| 56-81-5 | Glycerol |
| 26545-73-7 | Glycerol dichlorohydrin |
| 25791-96-2 | Glycerol triether |
| 56-40-6 | Glycine |
| 107-22-2 | Glyoxal |
| 118-74-1 | Hexachlorobenzene |
| 67-72-1 | Hexachloroethane |
| 36653-82-4 | Hexadecyl alcohol |
| 124-09-4 | Hexamethylenediamine |
| 629-11-8 | Hexamethylene glycol |
| 100-97-0 | Hexamethylenetetramine |
| 74-90-8 | Hydrogen cyanide |
| 123-31-9 | Hydroquinone |
| 99-96-7 | p-hydroxybenzoic acid |
| 26760-64-5 | Isoamylene |
| 78-83-1 | Isobutanol |
| 110-19-0 | Isobutyl acetate |
| 115-11-7 | Isobutylene |
| 78-84-2 | Isobutyraldehyde |
| 79-31-2 | Isobutyric acid |
| 25339-17-7 | Isodecanol |
| 26952-21-6 | Isooctyl alcohol |
| 78-78-4 | Isopentane |
| 78-59-1 | Isophorone |
| 121-91-5 | Isophthalic acid |
| 78-79-5 | Isoprene |
| 67-63-0 | Isopropanol |
| 108-21-4 | Isopropyl acetate |
| 75-31-0 | Isopropylamine |
| 75-29-6 | Isopropyl chloride |
| 25168-06-3 | Isopropylphenol |
| 463-51-4 | Ketene |
| (b) | Linear alkyl sulfonate |
| 123-01-3 | Linear alkylbenzene (linear dodecylbenzene) |
| 110-16-7 | Maleic acid |
| 108-31-6 | Maleic anhydride |
| 6915-15-7 | Malic acid |
| 141-79-7 | Mesityl oxide |
| 121-47-1 | Metanilic acid |

^aNo CAS number(s) have been assigned to this chemical, its isomers, or mixtures containing these chemicals.

| CAS No. ^a | Chemical |
|-------------------------|---------------------------------|
| 79-41-4 | Methacrylic acid |
| 563-47-3 | Methylal chloride |
| 67-56-1 | Methanol |
| 79-20-9 | Methyl acetate |
| 105-45-3 | Methyl acetoacetate |
| 74-89-5 | Methylamine |
| 100-61-8 | n-methylaniline |
| 74-83-9 | Methyl bromide |
| 37365-71-2 | Methyl butynol |
| 74-87-3 | Methyl chloride |
| 108-87-2 | Methylcyclohexane |
| 1331-22-2 | Methylcyclohexanone |
| 75-09-2 | Methylene chloride |
| 101-77-9 | Methylene dianiline |
| 101-68-8 | Methylene diphenyl diisocyanate |
| 78-93-3 | Methyl ethyl ketone |
| 107-31-3 | Methyl formate |
| 108-11-2 | Methyl isobutyl carbinol |
| 108-10-1 | Methyl isobutyl ketone |
| 80-62-6 | Methyl methacrylate |
| 77-75-8 | Methylpentynol |
| 98-83-9 | a-methylstyrene |
| 1634-04-4 | Methyl tert-butyl ether |
| 110-91-8 | Morpholine |
| 85-47-2 | a-naphthalene sulfonic acid |
| 120-18-3 | b-naphthalene sulfonic acid |
| 90-15-3 | a-naphthol |
| 135-19-3 | b-naphthol |
| 75-98-9 | Neopentanoic acid |
| 88-74-4 | o-nitroaniline |
| 100-01-6 | p-nitroaniline |
| 91-23-6 | o-nitroanisole |
| 100-17-4 | p-nitroanisole |
| 98-95-3 | Nitrobenzene |
| 27178-83-2 ^c | Nitrobenzoic acid (o,m, and p) |
| 79-24-3 | Nitroethane |
| 75-52-5 | Nitromethane |
| 88-75-5 | 2-Nitrophenol |
| 25322-01-4 | Nitropropane |
| 1321-12-6 | Nitrotoluene |
| 27215-95-8 | Nonene |
| 25154-52-3 | Nonylphenol |
| 27193-28-8 | Octylphenol |
| 123-63-7 | Paraldehyde |
| 115-77-5 | Pentaerythritol |
| 109-66-0 | n-pentane |
| 109-67-1 | 1-pentene |
| 127-18-4 | Perchloroethylene |
| 594-42-3 | Perchloromethyl mercaptan |
| 94-70-2 | o-phenetidine |
| 156-43-4 | p-phenetidine |

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| <i>CAS No.*</i> | <i>Chemical</i> |
|---|--------------------------------|
| 108-95-2 | Phenol |
| 98-67-9, 585-38-6, 609-46-1, 1333-39-7 ^c | phenolsulfonic acids |
| 91-40-7 | Phenyl anthranilic acid |
| 106-50-3 | Phenylenediamine |
| 75-44-5 | Phosgene |
| 85-44-9 | Phthalic anhydride |
| 85-41-6 | Phthalimide |
| 108-99-6 | b-picoline |
| 110-85-0 | Piperazine |
| 9003-29-6, 25036-29-7 ^c | Polybutenes |
| 9002-88-4 | Polyethylene |
| 25322-68-3 | Polyethylene glycol |
| 9003-07-0 | Polypropylene |
| 25322-69-4 | Polypropylene glycol |
| 9003-53-6 | Polystyrene |
| 123-38-6 | Propionaldehyde |
| 79-09-4 | Propionic acid |
| 71-23-8 | n-propyl alcohol |
| 107-10-8 | Propylamine |
| 540-54-5 | Propyl chloride |
| 115-07-1 | Propylene |
| 127-00-4 | Propylene chlorohydrin |
| 78-87-5 | Propylene dichloride |
| 57-55-6 | Propylene glycol |
| 75-56-9 | Propylene oxide |
| 110-86-1 | Pyridine |
| 106-51-4 | Quinone |
| 108-46-3 | Resorcinol |
| 27138-57-4 | Resorcylic acid |
| 69-72-7 | Salicylic acid |
| 127-09-3 | Sodium acetate |
| 532-32-1 | Sodium benzoate |
| 9004-32-4 | Sodium carboxymethyl cellulose |
| 3926-62-3 | Sodium chloroacetate |
| 141-53-7 | Sodium formate |
| 139-02-6 | Sodium phenate |
| 110-44-1 | Sorbic acid |
| 100-42-5 | Styrene |
| 110-15-6 | Succinic acid |
| 110-61-2 | Succinonitrile |
| 121-57-3 | Sulfanilic acid |
| 126-33-0 | Sulfolane |
| 1401-55-4 | Tannic acid |
| 100-21-0 | Terephthalic acid |
| 79-34-5 ^c | Tetrachloroethanes |
| 117-08-8 | Tetrachlorophthalic anhydride |
| 78-00-2 | Tetraethyl lead |

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| <i>CAS No.^a</i> | <i>Chemical</i> |
|--|---|
| 119-64-2 | Tetrahydronaphthalene |
| 85-43-8 | Tetrahydrophthalic anhydride |
| 75-74-1 | Tetramethyl lead |
| 110-60-1 | Tetramethylenediamine |
| 110-18-9 | Tetramethylethylenediamine |
| 108-88-3 | Toluene |
| 95-80-7 | Toluene-2,4-diamine |
| 584-84-9 | Toluene-2,4-diisocyanate |
| 26471-62-5 | Toluene diisocyanates (mixture) |
| 1333-07-9 | Toluenesulfonamide |
| 104-15-4 ^c | Toluenesulfonic acids |
| 98-59-9 | Toluenesulfonyl chloride |
| 26915-12-8 | Toluidines |
| 87-61-6, 108-70-3, 120-82-1 ^c | Trichlorobenzenes |
| 71-55-6 | 1,1,1-trichloroethane |
| 79-00-5 | 1,1,2-trichloroethane |
| 79-01-6 | Trichloroethylene |
| 75-69-4 | Trichlorofluoromethane |
| 96-18-4 | 1,2,3-trichloropropane |
| 76-13-1 | 1,1,2-trichloro-1,2,2,-trifluoro-ethane |
| 121-44-8 | Triethylamine |
| 112-27-6 | Triethylene glycol |
| 112-49-2 | Triethylene glycol dimethyl ether |
| 7756-94-7 | Triisobutylene |
| 75-50-3 | Trimethylamine |
| 57-13-6 | Urea |
| 108-05-4 | Vinyl acetate |
| 75-01-4 | Vinyl chloride |
| 75-35-4 | Vinylidene chloride |
| 25013-15-4 | Vinyl toluene |
| 1330-20-7 | Xylenes (mixed) |
| 95-47-6 | o-xylene |
| 106-42-3 | p-xylene |
| 1300-71-6 | Xylenol |
| 1300-73-8 | Xylidine |

Historical Note

Sec. filed Dec. 13, 1991 eff. 30 days after filing.

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^cCAS numbers for some of the isomers are listed, the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.