

**NEW JERSEY STATE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**NEW JERSEY ADMINISTRATIVE CODE  
TITLE 7, CHAPTER 27, SUBCHAPTER 17**

**CONTROL AND PROHIBITION  
OF AIR POLLUTION  
BY TOXIC SUBSTANCES**

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## 7:27-17.1 Definitions

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise.

"Aerodynamic downwash" means the rapid descent of a plume to ground level with little dilution and dispersion due to alteration of background air flow characteristics caused by the presence of buildings or other obstacles in the vicinity of the emission point.

"Air contaminant" means any substance, other than water or distillates of air, present in the atmosphere as solid particles, liquid particles, vapors or gases.

"Asbestos" means actinolite, amosite, anthophyllite, chrysotile, crocidolite, tremolite.

"CFR" means the Code of Federal Regulations.

"Control apparatus" means any device which prevents or controls the emission of any air contaminant directly or indirectly into the outdoor atmosphere.

"Department" means the New Jersey Department of Environmental Protection.

"Distillates of air" means helium (He), nitrogen (N<sub>2</sub>), oxygen (O<sub>2</sub>), neon (Ne), argon (Ar), xenon (Xe), and carbon dioxide (CO<sub>2</sub>).

"Effective stack height" means the distance to the plume center line from the ground as determined by adding the plume rise to the physical height of the stack. It shall be calculated by one of the following equations:

1. If the lowest possible temperature of the gas leaving the stack is 68 degrees Fahrenheit (20 degrees Celsius) or less:

$$\text{Effective stack height} = H_s + 2.76(D)(B^{1/3})$$

where:

H<sub>s</sub> = the physical stack height above grade in meters

D = the stack outlet diameter in meters

B = (V<sup>2</sup>)/T

V = the stack gas exit velocity in meters per second

T = the stack gas temperature at the stack outlet in degrees Kelvin

2. If the lowest possible temperature of the gas leaving the stack is greater than 68 degrees Fahrenheit (20 degrees Celsius):

$$\text{Effective stack height} = H_s + 8.28(F^{0.75})$$

where:

$H_s$  = the physical stack height above grade in meters

$F = (V)(D^2)(T-293)/T$

$V$  = the stack gas exit velocity in meters per second

$D$  = the stack outlet diameter in meters

$T$  = the stack gas temperature at the stack outlet in degrees Kelvin

"Equipment" means any device capable of causing the emission of an air contaminant either directly or indirectly to the outdoor atmosphere, and any stack or chimney, conduit, flue, duct, vent or similar device connected or attached to, or serving the equipment. This term includes, but is not limited to, a device in which the preponderance of the air contaminants emitted is caused by a manufacturing process.

"Gasoline" means any petroleum distillate or petroleum distillate/oxygenate blend having a Reid vapor pressure of four pounds per square inch (207 millimeters of mercury) absolute or greater, and commonly or commercially known or sold as gasoline.

"Indirect emissions" means a discharge of any air contaminant into the outdoor atmosphere through any opening that is not a stack or chimney directly connected to the equipment.

"Liquid particles" means particles which have volume but are not of rigid shape.

"Manufacturing process" means any action, operation or treatment embracing chemical, industrial, manufacturing, or processing factors, methods or forms including, but not limited to, furnaces, kettles, ovens, converters, cupolas, kilns, crucibles, stills, dryers, roasters, crushers, grinders, mixers, reactors, regenerators, separators, filters, reboilers, columns, classifiers, screens, quenchers, cookers, digesters, towers, washers, scrubbers, mills, condensers or absorbers.

"Open top tank" means any vessel in which a manufacturing process, or any part thereof, takes place during which there is an opening to the atmosphere greater than 25 percent of the surface area of any liquid substance contained therein.

"Person" means any individual or entity and shall include, without limitation, corporations, companies, associations, societies, firms, partnerships, and joint stock companies, and shall also include, without limitation, all political subdivisions of this State or any agencies or instrumentalities thereof.

"Plume rise" means the vertical distance from the point at which an effluent stream is discharged into the outdoor atmosphere to the highest point attained by the center line of the effluent stream.

"Reid vapor pressure" or "RVP" means the absolute vapor pressure of a petroleum product in pounds per square inch (kilopascals) at 100 degrees Fahrenheit ( $^{\circ}$ F) (37.8 degrees Celsius ( $^{\circ}$ C)) as measured by "Method 1 - Dry RVP Measured Method" or "Method 2 - Herzog Semi-Automatic

Method" promulgated at 40 CFR 80, Appendix E; or any other equivalent test method approved in advance in writing by the Department and the EPA.

"Solid particles" means particles of rigid shape and definite volume.

"Source operation" means any process or any identifiable part thereof that emits or can reasonably be anticipated to emit any air contaminant either directly or indirectly into the outdoor atmosphere.

"Stack or chimney" means a flue conduit or opening designed, constructed, or utilized for the purpose of emitting any air contaminant into the outdoor atmosphere.

"Standard conditions" means 70 degrees Fahrenheit (°F) (21.1 degrees Celsius (°C)) and one atmosphere pressure (14.7 pounds per square inch absolute or 760.0 millimeters of mercury).

"Storage tank" means any tank, reservoir, or vessel which is a container for liquids or gases, wherein:

1. No manufacturing process, or part thereof, other than filling or emptying takes place; and
2. The only treatment carried out is that necessary to prevent change from occurring in the physical condition or the chemical properties of the liquids or gases deposited into the container. Such treatment may include recirculating, agitating, maintaining the temperature of the stored liquid or gases, or replacing air in the vapor space above the stored liquids or gases with an inert gas in order to inhibit the occurrence of chemical reaction.

"Surface cleaner" means a device to remove unwanted foreign matter from the surfaces of materials by using VOC solvents in the liquid or vapor state.

"Surface coating formulation" means the material used to form a protective, functional, or decorative film including, but not limited to, any architectural coating, paint, varnish, ink or adhesive applied to or impregnated into a substrate.

"Surface coating operation" means the application of one or more surface coating formulations, using one or more coating applicators, together with any associated drying or curing areas. A single surface coating operation ends after drying or curing and before other surface coating formulations are applied. For any web coating line, this term means an entire coating application system, including any associated drying ovens or areas between the supply roll and take-up roll, that is used to apply surface coating formulations onto a continuous strip or web.

"Tank" means any container whose walls are constructed of material which is rigid and self-supporting.

"Toxic substance" or "TXS" means a substance listed in Table 1 of this subchapter.

"Transfer Operation" means the moving of any substance from any storage tank, manufacturing process vessel, or delivery vessel into any receiving vessel.

"Vapor" means the gaseous form of substances which, under standard conditions, are in the solid or liquid state and which can be changed to these states by either increasing the pressure or decreasing the temperature.

"Vapor pressure" means the pressure of the vapor phase of a substance, or the sum of the partial pressures of the vapor phases of individual substances in a mixture of substances, when in equilibrium with the non-vapor phase of the substance or substances.

"Volatile organic compound" or "VOC" means any compound of carbon (other than carbon monoxide, carbon dioxide, carbonic acid, metallic carbonates, metallic carbides, and ammonium carbonate) which participates in atmospheric photochemical reactions. For the purpose of determining compliance with emission limits or content standards, VOC shall be measured by test methods in the approved SIP (such as N.J.A.C. 7:27B-3) or 40 CFR Part 60, Appendix A, as applicable, or which have been approved in writing by the Department and are acceptable to EPA. This term does not include the compounds which EPA has excluded from its definition of VOC in the list set forth at 40 CFR 51.100(s)(1), which is incorporated by reference herein, together with all amendments and supplements. The list at 40 CFR 51.100(s)(1) currently includes the compounds and the classes of perfluorocarbons set forth below:

- methane
- ethane
- methylene chloride (dichloromethane)
- 1,1,1-trichloroethane (methyl chloroform)
- trichlorofluoromethane (CFC-11)
- dichlorodifluoromethane (CFC-12)
- trifluoromethane (HFC-23)
- 1,1,2-trichloro-1,2,2,-trifluoroethane (CFC-113)
- 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114)
- chloropentafluoroethane (CFC-115)
- chlorodifluoromethane (HCFC-22)
- 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
- 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
- 1,1-dichloro-1-fluoroethane (HCFC-141b)
- 1-chloro-1,1-difluoroethane (HCFC-142b)
- pentafluoroethane (HFC-125)
- 1,1,2,2-tetrafluoroethane (HFC-134)
- 1,1,1,2-tetrafluoroethane (HFC-134a)
- 1,1,1-trifluoroethane (HFC-143a)
- 1,1-difluoroethane (HFC-152a)

Classes of perfluorocarbons:

- cyclic, branched, or linear, completely fluorinated alkanes
- cyclic, branched, or linear, completely fluorinated ethers with no unsaturations
- cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations
- sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine

If there is any conflict between the list at 40 CFR 51.100(s)(l) and the list set forth above, the list at 40 CFR 51.100(s)(l) shall control.

**7:27-17.2 Asbestos surface coating**

No person shall cause, suffer, allow or permit surface coating by spraying on any building, structure, facility, installation or internal or external portion thereof, asbestos or friable material containing in excess of 0.25 per cent by weight of asbestos.

**7:27-17.3 Storage, transfer, and use of toxic substances**

- (a) No person shall cause, suffer, allow or permit any TXS listed in Table 1 to be emitted from any source operation, storage tank, or transfer operation into the outdoor atmosphere unless such equipment and operation is registered with the Department within six months of the effective date of this subchapter. Such registration shall include information relating to vessel sizes, transfer rates, emission rates, operating procedures and other information required by the Department and shall be made on forms provided by the Department.
- (b) In cases where the Department determines that the equipment or operating procedures as described in the registration do not represent advances in the art of control for the types and kinds of TXS emitted, the Department will so notify the registrant.
- (c) Within three months of such notification, the registrant must advise the Department of measures to be taken for reducing the TXS emissions to a rate or concentration equivalent to advances in the art of control and the schedule for completing such measures.
- (d) Upon notification by the Department that the measures and schedule submitted pursuant to subsection (c) of this section are acceptable, the registrant shall implement such measures in accordance with the schedule.
- (e) If, in the opinion of the Department, the measures or schedule submitted pursuant to subsection (c) of this section are not acceptable, the Department shall state its reasons and

may order the registrant to resubmit, within the time specified in the order, measures to be taken and the schedule for same. If the registrant fails within the time specified to make an acceptable resubmittal, the Department may order the registrant to implement such measures as it deems appropriate within a specified time.

- (f) Permit applications submitted to the Department pursuant to N.J.A.C. 7:27-8 satisfy the registration requirements of this section.

**TABLE 1  
TOXIC SUBSTANCES**

**GROUP I**

<b>Name</b>	<b>CAS Number</b>
Benzene (Benzol)	71-43-2
Carbon tetrachloride (Tetrachloromethane)	56-23-5
Chloroform (Trichloromethane)	67-66-3
Dioxane (1,4-Diethylene dioxide)	123-91-1
Ethylenimine (Aziridine)	151-56-4
Ethylene dibromide (1,2-Dibromoethane)	106-93-4
Ethylene dichloride (1,2-Dichloroethane)	107-06-2
1,1,2,2-Tetrachloroethane (sym Tetrachloroethane)	79-34-5
Tetrachloroethylene (Perchloroethylene)	127-18-4
1,1,2-Trichloroethane (Vinyl trichloride)	79-00-5
Trichloroethylene (Trichlorethene)	79-01-6

**GROUP II**

<b>Name</b>	<b>CAS Number</b>
Methylene chloride (Dichloromethane)	75-09-2
1,1,1-Trichloroethane (Methyl chloroform)	71-55-6

**7:27-17.4 Discharge of toxic substances**

- (a) No person shall cause, suffer, allow or permit any GROUP I TXS to be emitted from any source operation into the outdoor atmosphere unless such discharge is:
1. At an effective stack height of no less than 40 feet (12.2 meters) above grade;
  2. No less than 20 feet (6.1 meters) higher than any area of human use or occupancy including, but not limited to, the roof of a building, which is within 50 feet (15.2 meters), measured horizontally from the point of discharge; and
  3. Directed vertically upward.

- (b) No person shall cause, suffer, allow or permit the emission of a GROUP I TXS into the outdoor atmosphere from a system, equipment, or control apparatus not approved by the Department as being effective in preventing aerodynamic downwash.
- (c) The Department has determined that Group II TXS should be subject to at least reasonably available control technology requirements. Accordingly, requirements for the implementation of control measures, including, but not limited to, requirements for the installation and use of control apparatus, set forth at N.J.A.C. 7:27-16 and 23, shall apply with full force to Group II TXS until the Department amends this rule in response to anticipated EPA rule-making or otherwise. For example, pursuant to this subsection and N.J.A.C. 7:27-16.4(b), certain transfers of methylene chloride may be conducted only with either a vapor control apparatus which reduces by no less than 90 percent the concentration of methylene chloride in the air-vapor mixture displaced during the transfer, a floating roof, or certain types of vapor balance systems. For another example, pursuant to this subsection and N.J.A.C. 7:27-23.3, a lacquer may not contain more than 5.7 pounds per gallon of methylene chloride, nor may it contain more than 4.7 pounds of VOC together with one pound of methylene chloride.

#### **7:27-17.5 Operating instructions**

- (a) No person shall cause, suffer, allow or permit the use of TXS in any open top tank or surface cleaner unless such use is in conformity with written operating, inspection and maintenance instructions prepared in accordance with guidelines issued by the Department.
- (b) Any person subject to the provisions of subsection (a) of this section shall maintain a training program to ensure that all personnel associated with the use or operation of the open top tank or surface cleaner understand and follow the specified procedure.
- (c) Copies of operating instructions and maintenance instructions must be located at the open top tank or surface cleaner. Copies shall be supplied to the Department when requested and must be accompanied by similar documents supplied by the equipment manufacturer, with explanations for differences between the two.
- (d) The written procedures required by this section shall be submitted to the Department upon request within 10 days of the receipt of such request; such procedure shall be subject to review and approval by the Department. If, in the opinion of the Department, such procedure does not fulfill the requirements of this section, the Department may state its reason for disapproval and order the preparation of an amended procedure within the time period specified in the order. If the person responsible fails within the time period specified in the order to submit an amended procedure which, in the opinion of the Department, fulfills the said requirements, the Department may revise the procedure accordingly. Such revised procedure will thereafter be that to which the person responsible must conform.



- (e) Any person subject to the provisions of this section shall notify the Department in writing within five days of any revision or alteration of a procedure approved pursuant to the subsection (d) of this section. Such written notification shall include a detailed description of the changes in the procedure and the reasons thereafter. Such amended procedure shall be subject to review and approval by the Department.
- (f) The provisions of this section shall become effective on January 1, 1981.

**7:27-17.6 Emission information and tests**

- (a) Any person responsible for the manufacture, application or use of any coating, applied on or after August 15, 1977, which the Department, or any agent thereof, has reason to believe contains asbestos shall, when requested by the Department, conduct such tests as are necessary in the opinion of the Department to determine the presence and the amount and/or kinds of asbestos in the coating. Such tests shall be made at the expense of the person responsible.
- (b) The Department may waive the testing requirements of subsection (a) of this section upon receipt of a materials specification report from the material manufacturer certifying that the asbestos content of the surface coating for which testing is required complies with the provisions of section 2 of this subchapter.
- (c) Any person responsible for the emission of TXS shall, upon request of the Department, provide:
  - 1. Information relating to the location, rate, duration, composition, and properties of the effluent and such other information as the Department may prescribe.
  - 2. Facilities and necessary equipment for determining the quantity and identity of TXS emitted into the outdoor atmosphere and shall conduct such tests using methods approved by the Department. Test data shall be recorded in a permanent log at such time intervals as specified by the Department and shall be maintained for a period of not less than two years and shall be available for review by the Department.
  - 3. Sampling facilities and testing facilities exclusive of instrumentation and sensing devices as may be necessary for the Department to determine the nature and quantity of TXS being emitted into the outdoor atmosphere. During such testing by the Department, the equipment and all components connected, or attached to, or serving the equipment shall be used and operated under normal routine operating conditions or under such other conditions as may be requested by the Department. The facilities may be either permanent or temporary, at the discretion of the person responsible for their provision, and shall conform to all applicable laws and regulations concerning safe construction and safe practice.

**7:27-17.7 Permit to construct and certificate to operate**

- (a) No person shall construct or install any new equipment, or any new control apparatus, or alter any existing equipment or control apparatus from which TXS are emitted into the outdoor atmosphere without first having obtained a "Permit to Construct, Install or Alter Control Apparatus or Equipment" from the Department, in accordance with the provisions of subchapter 8 (Permits and Certificates) of this chapter.
- (b) No person shall use or cause to be used any new or altered equipment, or any new or altered control apparatus from which TXS are emitted into the outdoor atmosphere without first having obtained a "Certificate to Operate Control Apparatus or Equipment" from the Department, in accordance with the provisions of subchapter 8 (Permits and Certificates) of this chapter.
- (c) No person shall use or cause to be used any equipment or control apparatus from which TXS are emitted into the atmosphere unless all components connected, or attached to, or serving the equipment, including control apparatus, are functioning properly and are in use in accordance with any relevant "Permit to Construct, Install or Alter Control Apparatus or Equipment" and any relevant "Certificate to Operate Control Apparatus or Equipment".

**7:27-17.8 Applicability**

- (a) Operations and equipment covered by this subchapter shall include, but not limited to, storage tanks, transfer operations, open top tanks, surface cleaning, surface coating, organic chemical manufacture, pharmaceutical manufacture, petroleum refining, and miscellaneous organic solvent uses in which one or more of the toxic substances in Table 1 are stored, used, or manufactured.
- (b) Whenever persons, equipment, control apparatus or TXS subject to the provisions of this subchapter are also subject to the provisions of any other subchapters of this chapter, the requirements of the relevant provisions of this subchapter and all subchapters of this chapter will apply.
- (c) Whenever a TXS subject to the provisions of this subchapter is also subject to the provisions of any other subchapters of this chapter, the relevant provisions of the subchapter requiring the lowest allowable rate will apply.

**7:27-17.9 Exceptions**

- (a) The provisions of sections 3, 4 and 6(c) of this subchapter shall not apply to the benzene constituent of gasoline which is discharged to the atmosphere from storage tanks or transfer operations.

(b) The provisions of this subchapter shall not apply to any TXS which:

1. Was not added to or deliberately formed in a raw material or a finished product; and
2. Does not exceed 0.25 percent by weight of any raw material or finished product; and
3. Is not emitted from any source operation, storage tank, or transfer operation at a rate in excess of 0.1 pounds (45.4 grams) per hour.