

61-62.5

Standard No. 8

Toxic Air Pollutants

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I. GENERAL APPLICABILITY.

This Standard is applicable to sources of toxic air pollutants as provided below. This Standard does not apply to fuel burning sources which burn only virgin fuel or specification used oil. The terms in this Standard are used as defined in South Carolina Air Pollution Control Regulations and Standards Regulation 62.1, Section I, "Definitions". The effective date of this Standard is June 28, 1991.

A.EXISTING SOURCES:

(1) Any person with an existing source of any toxic air pollutant shall be required to show compliance with this standard not later than two years after the effective date of this standard. These sources must provide the Department with the name and Chemical Abstract Service (CAS) number of the chemical, stack parameters, and emission rate data. If potential emissions of any single toxic air pollutant are 1000 lbs/month or greater an operating permit will be required. An operating permit may or may not be required for sources with emissions less than 1000 lbs/month. This determination will take into consideration, but not be limited to, the nature and amount of the pollutants, location, proximity to commercial establishments and residences.

(2) Any person holding an operating permit prior to the effective date of this standard shall be required to demonstrate compliance with this standard for all toxic air pollutant emissions prior to renewal of the operating permit. The compliance demonstration must include all sources of toxic air pollutants at the facility, including sources not previously subject to permit requirements. Methods for compliance demonstration may be found in the Air Quality Modeling Guidelines as prepared pursuant to paragraph II(A) of this regulation.

B.NEW SOURCES:

Any person who constructs, alters, or adds to a source of toxic air pollutants after the effective date of this standard, shall comply with this standard. These sources must provide the Department with the name and Chemical Abstract Service (CAS) number of the chemical, stack parameters, and emission rate data. If potential emissions of any single toxic air pollutant are 1000 lbs/month or greater a construction permit will be required. A permit may or may not be required for sources with emissions less than 1000 lbs/month; however, all sources are required to demonstrate compliance with this standard for all toxic emissions. This determination will take into consideration, but will not be limited to, the nature and amount of the pollutants, location, proximity to residences and commercial establishments. Methods for compliance demonstration may be found in the Air Quality Modeling Guidelines as prepared pursuant to paragraph II(A) of this regulation.

C. This standard will not supersede any requirements imposed by Federal National Emission Standards for Hazardous Air Pollutants nor any special permit conditions, unless this standard would impose a more restrictive emission limit.

D. Facilities are exempt from the requirements of this standard as follows:

(1) Affected sources that emit Hazardous Air Pollutants (HAPs) (42 U.S.C. 112(b)) and are subject to one or more Federal Maximum Achievable Control Technology (MACT) standards (42 U.S.C. 112(d), (g), (h), or (j)) are exempt. This exemption shall only apply to toxic air pollutants regulated by this standard

that are also federally regulated HAPs, except as provided below. This exemption shall apply once the emission sources are in compliance with a proposed or final MACT standard. Affected source, for the purposes of this part, means the stationary source, the group of stationary sources, or the portion of a stationary source that is regulated by a relevant standard or other requirement established pursuant to Section 112 of the Act (42 U.S.C 7401 et seq.). Each relevant standard will define the “affected source” for the purposes of that standard.

(2) Emission points that emit HAPs which are not exempt from this standard according to (1) above are granted an exemption once a federally required Residual Risk analysis (42 U.S.C. section 112(f)) that accounts for all facility-wide HAPs has been completed. Such emission points may be exempted prior to a Residual Risk analysis on a case-by-case basis after review by the Department. Exemptions may be granted in cases where off-site impacts from HAP emissions are significantly below levels established by this standard (less than 50% of the standard).¹

(3) Sources that emit toxic air pollutants regulated by this standard which are not federally regulated HAPs can request an exemption from this standard on a case-by-case basis after review by the Department. Exemptions may be granted in cases where non-HAP emissions are controlled (reduced) by MACT controls applied to reduce HAP emissions and in cases where off-site impacts from non-HAP emissions are significantly below levels established by this standard (less than 50% of the standard).¹

E. Additions and deletions to the list of Toxic Air Pollutants may be made following normal administrative procedures.

II. TOXIC AIR EMISSIONS.

A. The Department will prepare Air Quality Modeling Guidelines to provide assistance to facilities concerning compliance demonstrations and modeling issues. These guidelines may be updated periodically as new models and/or modeling procedures are developed by the Environmental Protection Agency. Detailed procedures for showing compliance with this standard may be found in the Air Quality Modeling Guidelines. Required modeling must use the latest versions of United States Environmental Protection Agency air dispersion models to determine the concentration of the toxic air pollutant in the ambient air at or beyond the plant property line, using 24-hour averaging.

B. The Bureau may provide modeling assistance to facilities that are designated as “small business stationary source” as defined in the Federal Clean Air Act (42 U.S.C. Sect. 507 (c)). However, the facility is still responsible for submitting the emission and facility data needed for the modeling analyses. Nothing in this section precludes a facility from conducting its own modeling if desired by the facility.

C. Changes in the following parameters will require a review by the facility to determine if they have an adverse impact on the compliance demonstration:

¹ If future construction/modifications cause off-site impacts to exceed 50% of the appropriate standard, the exemption is no longer valid.

- (1) Decrease in stack height
- (2) Decrease in stack exit temperature
- (3) Increase in stack diameter
- (4) Decrease in stack exit velocity
- (5) Increase in building height or building additions at the facility
- (6) Increase in emission rates
- (7) Decrease in distance between stack and property line
- (8) Changes in stack orientation from vertical
- (9) Installation of a rain cap that impedes vertical flow

Exemptions to this requirement may be granted on a case-by-case basis. A revised compliance demonstration will not be required when air dispersion modeling software programs are updated.

D. The air toxics, emission rates, and other information used in the compliance determination will be listed in Attachment A -- Modeling Parameters Used in Compliance Determination of the construction and/or operating permit for the facility. Changes that increase maximum modeled concentrations may be administratively incorporated in these permits provided a compliance demonstration using these changes is submitted to the Department. Variations from the input parameters shall not constitute a violation unless the maximum allowable ambient concentrations identified in this standard are exceeded.

E. The allowable ambient air concentrations of a toxic air pollutant beyond the plant property line as determined by modeling under Part A shall be limited to the value listed in the following table. The pollutants are divided into three categories based on chronic exposure as follows:

Category 1: Low Toxicity - Those pollutants which cause readily reversible changes which disappear after exposure ends.

Category 2: Moderate Toxicity - Those pollutants which may cause chronic reversible or irreversible changes that are not severe enough to result in death or permanent injury.

Category 3: High Toxicity - Those pollutants which may cause chronic effects that result in death or permanent injury after very short exposure to small quantities.

Chemical Name	CAS Number	Category	Maximum Allowable 24-Hour Average Concentration ($\mu\text{g}/\text{m}^3$)*
Acetaldehyde	75-07-0	2	1800.00
Acetamide	60-35-5	3	+
Acetic Anhydride	108-24-7	1	500.00
Acetonitrile	75-05-8	1	1750.00
Acetophenone	98-86-2	3	+
2-Acetylaminofluorene	53-96-3	3	+

Acrolein	107-02-8	3	1.25
Acrylamide	79-06-1	2	0.30
Acrylic Acid	79-10-7	3	147.50
Acrylonitrile	107-13-1	3	22.50
Aldicarb	116-06-3	2	6.00
Allyl Chloride	107-05-1	2	30.00
p-Aminodiphenyl (4-Aminobiphenyl)	92-67-1	3	0.00
Ammonium Chloride	12125-02-9	1	250.00
Aniline	62-53-3	3	50.00
o-Anisidine	90-04-0	3	2.50
p-Anisidine	104-94-9	3	2.50
Antimony Compounds	>	1	2.50
Arsenic Pentoxide	1303-28-2	3	1.00
Arsenic	7440-38-2	3	1.00
Benzene	71-43-2	3	150.00
Benzidine	92-87-5	3	0.00
Benzotrichloride	98-07-7	3	300.00
Benzyl Chloride	100-44-7	3	25.00
Beryllium Oxide	1304-56-9	3	0.01
Beryllium Sulfate	13510-49-1	3	0.01
Beryllium	7440-41-7	3	0.01
Biphenyl	92-52-4	3	6.00
Bis(Chloromethyl) Ether	542-88-1	3	0.03
Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7	3	25.00
Bromoform	75-25-2	3	25.85
1,3-Butadiene	106-99-0	3	110.50
1-Butanethiol (n-Butyl Mercaptan)	109-79-5	2	15.00

n-Butylamine	109-73-9	3	75.00
Cadmium Oxide	1306-19-0	3	0.25
Cadmium Sulfate	10124-36-4	3	0.20
Cadmium	7440-43-9	3	0.25
Calcium Cyanamide	156-62-7	3	2.50
Caprolactam, vapor	105-60-2	1	500.00
Caprolactam, dust	105-60-2	1	25.00
Captan	133-06-2	3	25.00
Carbaryl	63-25-2	3	25.00
Carbon Disulfide	75-15-0	3	150.00
Carbon Tetrachloride	56-23-5	3	150.00
Carbonyl Sulfide	463-58-1	3	12250.00
Catechol	120-80-9	3	297.00
Chloramben	133-90-4	3	+
Chlordane	57-74-9	3	2.50
Chlorine	7782-50-5	1	75.00
Chloroacetic Acid	79-11-8	3	900.00
2-Chloroacetophenone	532-27-4	1	7.50
Chlorobenzene	108-90-7	3	1725.00
Chlorobenzilate	510-15-6	3	+
Chloroform	67-66-3	3	250.00
Chloromethyl Methyl Ether	107-30-2	3	+
p-Chloronitrobenzene	100-00-5	3	5.00
Chloroprene	126-99-8	3	175.00
Chromium (+6) Compounds	>	3	2.50
Cobalt Compounds	>	3	0.25
Coke Oven Emissions	>	3	+

Cresols/cresylic acid and mixture	1319-77-3	3	220.00
m-Cresol	108-39-4	3	110.50
o-Cresol	95-48-7	3	110.50
p-Cresol	106-44-5	3	110.50
Cumene	98-82-8	2	9.00 #
Cyanamide	420-04-2	1	50.00
Cyanic Acid	420-05-3	1	500.00
Cyanide	57-12-5	1	125.00
Cyanide compounds1	>	1	+
Cyanoacetamide	107-91-5	1	125.00
Cyanogen	460-19-5	1	500.00
2,4-D,salts and esters	94-75-7	3	50.00
DDE	3547-04-4	3	+
Diazomethane	334-88-3	3	2.00
Dibenzofuran	132-64-9	3	+
1,2-Dibromo-3-chloropropane	96-12-8	3	0.05
Dibutylphthalate	84-74-2	3	25.00
p-Dichlorobenzene	106-46-7	2	4500.00
3,3 -Dichlorobenzidine	91-94-1	3	0.15
1,3-Dichloropropene	542-75-6	3	20.00 #
Dichlorvos	62-73-7	3	4.52
Diethanolamine	111-42-2	2	129.00
n,n-Diethylaniline (n,n-Dimethylaniline)	121-69-7	2	250.00
Diethyl Phthalate	84-66-2	3	25.00
Diethyl Sulfate	64-67-5	3	+
Diisodecyl Phthalate	2671-40-0	2	50.00
3,3-Dimethoxybenzidine	119-90-4	3	0.30

3,3'-Dimethyl Benzidine	119-93-7	3	+
Dimethyl Carbamoyl Chloride	79-44-7	3	+
Dimethyl Formamide	68-12-2	2	300.00
1,1-Dimethyl Hydrazine	57-14-7	3	5.00
1,2-Dimethyl Hydrazine	540-73-8	3	5.00
Dimethyl Phthalate	131-11-3	3	25.00
Dimethyl Sulfate	77-78-1	3	2.50
4-Dimethylaminoazobenzene	60-11-7	3	125.00
m-Dinitrobenzene	99-65-0	2	10.00
4,6-Dinitro-o-cresol and salts	534-52-1	2	2.00
2,4-Dinitrophenol	51-28-5	3	+
2,4-Dinitrotoluene	121-14-2	3	1.50
Dioctyl Phthalate	117-84-0	2	50.00
1,4-Dioxane	123-91-1	3	450.00
1,2-Diphenylhydrazine	122-66-7	3	+
Epichlorohydrin	106-89-8	3	50.00
1,2-Epoxybutane	106-88-7	3	+
Ethanethiol	75-08-1	2	10.00
Ethanolamine	141-43-5	1	200.00
Ethyl Acrylate	140-88-5	3	102.50
Ethyl Benzene	100-41-4	2	4350.00
Ethyl Chloride	75-00-3	2	26400.00
Ethylene Dibromide	106-93-4	2	770.00
Ethylene Dichloride	107-06-2	3	200.00
Ethylene Glycol	107-21-1	3	650.00
Ethylene Oxide	75-21-8	3	10.00
Ethylene Thiourea	96-45-7	3	+

Ethylene Imine	151-56-4	3	5.00
Ethylidene Dichloride	75-34-3	3	2025.00
Formaldehyde	50-00-0	2	15.00
Formamide	75-12-7	1	750.00
Formic Acid	64-18-6	1	225.00
Furfural	98-01-1	1	200.00
Furfuryl Alcohol	98-00-0	2	400.00
Glycidaldehyde	765-34-4	3	75.00
Glycol Ethers ² (mono- and di- ethers of diethylene glycol or triethylene glycol)	>	1	+
Glycol Ethers ² (mono- and di- ethers of ethylene glycol)	>	3	+
Heptachlor	76-44-8	3	2.50
Hexachlorobenzene	118-74-1	3	+
Hexachlorobutadiene	87-68-3	3	1.20
Hexachlorocyclohexane (multiple isomers)	608-73-1	2	5.00
Hexachlorocyclopentadiene	77-47-4	3	0.50
Hexachloroethane	67-72-1	3	48.50
Hexachloronaphthalene	1335-87-1	3	1.00
Hexamethylene-1,6-diisocyanate	822-06-0	2	0.34
Hexamethylphosphoramide	680-31-9	3	14.50
Hexane	110-54-3	3	900.00
Hydrazine	302-01-2	3	0.50
Hydrochloric Acid	7647-01-0	1	175.00
Hydrogen Cyanide	74-90-8	1	250.00
Hydrogen Fluoride	7664-39-3	3	2.05
Hydrogen Sulfide	7783-06-4	2	140.00
Hydroquinone	123-31-9	2	20.00

Isophorone	78-59-1	2	250.00
Isopropylamine	75-31-0	1	300.00
Kepone (Chlordecone)	143-50-0	3	0.00
Ketene	463-51-4	3	4.50
Lead Arsenate	7645-25-2	3	0.75
Lead (+2) Arsenate	7784-40-9	3	0.75
Lindane	58-89-9	3	2.50
Malathion	121-75-5	2	100.00
Maleic Anhydride	108-31-6	2	10.00
Manganese Compounds	>	3	25.00
Mercury	7439-97-6	3	0.25
Methanol	67-56-1	3	1310.00
Methoxychlor	72-43-5	3	50.00
Methyl Bromide	74-83-9	3	100.00
Methyl Chloride	74-87-3	3	515.00
Methyl Chloroform (1,1,1-Trichloroethane)	71-55-6	3	9550.00
Methylene Biphenyl Isocyanate	101-68-8	2	2.00
4,4-Methylene Bis(2-chloroaniline)	101-14-4	3	1.10
4,4-Methylenedianiline	101-77-9	3	4.00
Methyl Ethyl Ketone (2-Butanone)	78-93-3	1	14750.00
Methyl Hydrazine	60-34-4	3	1.75
Methyl Iodide	74-88-4	3	58.00
Methyl Isobutyl Ketone	108-10-1	2	2050.00
Methyl Isocyanate	624-83-9	3	0.23
Methyl Mercaptan	74-93-1	2	10.00
Methyl Methacrylate	80-62-6	1	10250.00
Methylamine	74-89-5	1	300.00

Methylene Chloride	75-09-2	1	8750.00
Methyl-t-Butyl Ether	1634-04-4	1	+
Mineral Fibers, Fine3	>	3	+
Mineral Oil Mist (Paraffin Oil)	8012-95-1	3	25.00
Mirex	2385-85-5	3	4500.00
Naphthalene	91-20-3	1	1250.00
a-Naphthylamine	134-32-7	3	0.00
b-Naphthylamine	91-59-8	3	0.00
Nickel Carbonyl	13463-39-3	3	1.75
Nickel Oxide	1313-99-1	3	5.00
Nickel Sulfate	7786-81-4	3	5.00
Nickel	7440-02-0	3	0.50
Nitric Acid	7697-37-2	1	125.00
p-Nitroaniline	100-01-6	3	15.00
Nitrobenzene	98-95-3	3	25.00
4-Nitrobiphenyl	92-93-3	3	0.00
Nitrogen Mustard	51-75-2	3	0.00
Nitroglycerin	55-63-0	2	5.00
p-Nitrophenol	100-02-7	3	0.00
1-Nitropropane	108-03-2	1	2250.00
2-Nitropropane	79-46-9	3	182.00
p-Nitrosophenol	104-91-6	3	0.00
n-Nitroso-n-methylurea	684-93-5	3	+
n-Nitrosodimethylamine	62-75-9	3	0.00
n-Nitrosomorpholine	59-89-2	3	5000.00
p-Nitrotoluene	99-99-0	3	5.50
Octachloronaphthalene	2234-13-1	3	0.50

Oxalic Acid	144-62-7	2	10.00
Paraquat	1910-42-5	3	0.50
Parathion	56-38-2	3	0.50
Pentachloronitrobenzene (Quintobenzene)	82-68-8	3	+
Pentachlorophenol	87-86-5	2	5.00
Phenol	108-95-2	2	190.00
p-Phenylenediamine	106-50-3	2	1.00
Phenylhydrazine	100-63-0	2	200.00
Phosgene (Carbonyl Chloride)	75-44-5	2	4.00
Phosphine	7803-51-2	3	2.09
Phosphoric Acid	7664-38-2	1	25.00
Phosphorus	7723-14-0	2	0.50
Phthalic Anhydride	85-44-9	3	30.30
Picric Acid	88-89-1	2	1.00
Polychlorinated Biphenyls (PCB) (multiple compounds)	>	3	2.50
Polycyclic Organic Matter ⁴	>	3	160.00
1,3-Propane Sultone	1120-71-4	3	+
b-Propiolactone	57-57-8	3	7.50
Propionaldehyde	123-38-6	1	+
Propoxur	114-26-1	3	2.50
Propylene Dichloride	78-87-5	3	1750.00
Propylene Oxide	75-56-9	3	250.00
1,2-Propylenimine	75-55-8	3	23.35
Pyrethrin I	121-21-1	3	25.00
Pyrethrin II	121-29-9	3	25.00
Pyrethrum	8003-34-7	2	50.00

Quinoline	91-22-5	3	+
Quinone	106-51-4	3	2.00
Rotenone	83-79-462	2	50.00
Selenium Compounds	>	3	1.00
Sodium Hydroxide ⁵	1310-73-2	1	50.00
Styrene	100-42-5	1	5325.00
Styrene Oxide	96-09-3	3	+
Sulfuric Acid	7664-93-9	2	10.00
Tetrachlorinated Dibenzo-p-dioxins	1746-01-6	3	0.00
1,1,2,2-Tetrachloroethane (Acetylene Tetrachloride)	79-34-5	3	35.00
Tetrachloroethylene (Perchloroethylene)	127-18-4	2	3350.00
Titanium Tetrachloride	7550-45-0	1	2500.00
Toluene	108-88-3	3	2000.00
2,4-Toluenediamine	95-80-7	3	+
Toluene Diisocyanate	26471-62-5	2	0.40
Toluene-2,4- diisocyanate	584-84-9	2	0.40
o-Toluidine	95-53-4	3	43.85
Toxaphene	8001-35-2	3	2.50
1,2,4-Trichlorobenzene	120-82-1	2	400.00
1,1,2-Trichloroethane	79-00-5	3	273.00
Trichloroethylene	79-01-6	1	6750.00
2,4,5-Trichlorophenol	95-95-4	3	+
2,4,6-Trichlorophenol	88-06-2	3	+
Triethylamine	121-44-8	3	207.00
Trifluralin	1582-09-8	3	+
2,2,4-Trimethylpentane	540-84-1	1	8750.00

Urethane (Carbamic Acid Ethyl Ester)	51-79-6	2	5000.00
Vinyl Acetate	108-05-4	3	176.00
Vinyl Bromide	593-60-2	3	100.00
Vinyl Chloride	75-01-4	3	50.00
Vinyl Fluoride	75-02-5	2	19.00
Vinylidene chloride	75-35-4	3	99.00
Xylene	1330-20-7	2	4350.00
m-Xylene	108-38-3	2	4350.00
o-Xylene	95-47-6	2	4350.00
p-Xylene	106-42-3	2	4350.00
Xylidine	1300-73-8	3	50.00

* For the purpose of this standard, these values shall be rounded to the nearest hundredth of a $\mu\text{g}/\text{m}^3$. For example, a test or modeled value of 0.005 through 0.01 would be rounded to 0.01 but values less than 0.005 would be rounded to 0.00.

+ to be determined

> No CAS number.

Verified reference concentration (RfC) established by the United States Environmental Protection Agency.

¹ XCN where X = H⁺ or any other group where a formal dissociation may occur. For example KCN or Ca(CN)₂.

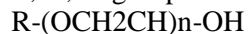
² Includes mono- and di- ethers of ethylene glycol, diethylene glycol and triethylene glycol



where: n = 1, 2, or 3

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure:



Polymers are excluded from the glycol category.

Mono- and di- ethers of ethylene glycol are category 3 air toxics; mono- and di- ethers of diethylene glycol and triethylene glycol are category 1 air toxics.

³ Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, and slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

⁴ Includes organic compounds with more than one benzene ring and which have a boiling point greater than or equal to 100° C.

⁵ The use of sodium hydroxide in a scrubber for air pollution control purposes is exempt from this standard.

Note: For all listings above that contain the word “compounds” and for glycol ethers the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named element (i.e. antimony, arsenic, etc.) as part of that chemical infrastructure

III. CONTROLS.

If modeling by the source indicates that the maximum allowable concentration is exceeded, the Department may allow approved, site specific modeling/ambient monitoring on a case-by-case basis. If this approach does not demonstrate that the public health will be adequately protected, the source will be required to reduce emissions by implementing controls, altering the process, or limiting production.

IV. SOURCE TEST REQUIREMENTS.

The owner or operator of all sources of toxic air pollutants shall conduct such tests as required by the Department to verify toxic air pollutant emission rates. An owner or operator shall ensure that source tests are conducted in compliance with the requirements of R.61-62.1, Section IV, Source Tests.

V. RECORDKEEPING.

A. Copies of all records and reports required under this Standard shall be available for inspection by the Department during normal business hours and copies shall be provided to the Department within ten working days of receipt of a written request by the Department.

B. Copies of all records and reports required under this Standard shall be maintained by the owner/operator for three years after the date on which the record was made or the report submitted.