

15A NCAC 02Q .0711 EMISSION RATES REQUIRING A PERMIT

(a) A permit to emit toxic air pollutants shall be required for any facility, excluding sources exempt from evaluation by 15A NCAC 02Q .0702, if one or more emission release points are obstructed or non-vertically oriented whose actual rate of emissions by pollutant from all sources is greater than any one of the following toxic air pollutant permitting emissions rates:

Obstructed or Non-Vertical Oriented Toxic Air Pollutant Permitting Emission Rates (TPER)				
Pollutant (CAS Number)	Carcinogens	Chronic Toxicants	Acute Systemic Toxicants	Acute Irritants
	lb/yr	lb/day	lb/hr	lb/hr
acetaldehyde (75-07-0)				6.8
acetic acid (64-19-7)				0.96
acrolein (107-02-8)				0.02
acrylonitrile (107-13-1)		0.4	0.22	
ammonia (7664-41-7)				0.68
aniline (62-53-3)			0.25	
arsenic and inorganic arsenic compounds	0.053			
asbestos (1332-21-4)	5.7 X 10 ⁻³			
aziridine (151-56-4)		0.13		
benzene (71-43-2)	8.1			
benzidine and salts (92-87-5)	0.0010			
benzo(a)pyrene (50-32-8)	2.2			
benzyl chloride (100-44-7)			0.13	
beryllium (7440-41-7)	0.28			
beryllium chloride (7787-47-5)	0.28			
beryllium fluoride (7787-49-7)	0.28			
beryllium nitrate (13597-99-4)	0.28			
bioavailable chromate pigments, as chromium (VI) equivalent	0.0056			
bis-chloromethyl ether (542-88-1)	0.025			
bromine (7726-95-6)				0.052
1,3-butadiene (106-99-0)	11			
cadmium (7440-43-9)	0.37			
cadmium acetate (543-90-8)	0.37			
cadmium bromide (7789-42-6)	0.37			
carbon disulfide (75-15-0)		3.9		
carbon tetrachloride (56-23-5)	460			
chlorine (7782-50-5)		0.79		0.23
chlorobenzene (108-90-7)		46		
chloroform (67-66-3)	290			
chloroprene (126-99-8)		9.2	0.89	
cresol (1319-77-3)			0.56	
p-dichlorobenzene (106-46-7)				16.8
di(2-ethylhexyl)phthalate (117-81-7)		0.63		
dimethyl sulfate (77-78-1)		0.063		
1,4-dioxane (123-91-1)		12		
epichlorohydrin (106-89-8)	5600			
ethyl acetate (141-78-6)			36	
ethylenediamine (107-15-3)		6.3	0.64	
ethylene dibromide (106-93-4)	27			
ethylene dichloride (107-06-2)	260			
ethylene glycol monoethyl ether (110-80-5)		2.5	0.48	
ethylene oxide (75-21-8)	1.8			

Obstructed or Non-Vertical Oriented Toxic Air Pollutant Permitting Emission Rates (TPER)				
Pollutant (CAS Number)	Carcinogens	Chronic Toxicants	Acute Systemic Toxicants	Acute Irritants
	lb/yr	lb/day	lb/hr	lb/hr
ethyl mercaptan (75-08-1)			0.025	
fluorides		0.34	0.064	
formaldehyde (50-00-0)				0.04
hexachlorocyclopentadiene (77-47-4)		0.013	0.0025	
hexachlorodibenzo-p-dioxin (57653- 85-7)	0.0051			
n-hexane (110-54-3)		23		
hexane isomers except n-hexane				92
hydrazine (302-01-2)		0.013		
hydrogen chloride (7647-01-0)				0.18
hydrogen cyanide (74-90-8)		2.9	0.28	
hydrogen fluoride (7664-39-3)		0.63		0.064
hydrogen sulfide (7783-06-4)		1.7		
maleic anhydride (108-31-6)		0.25	0.025	
manganese and compounds		0.63		
manganese cyclopentadienyl tricarbonyl (12079-65-1)		0.013		
manganese tetroxide (1317-35-7)		0.13		
mercury, alkyl		0.0013		
mercury, aryl and inorganic compounds		0.013		
mercury, vapor (7439-97-6)		0.013		
methyl chloroform (71-55-6)		250		64
methylene chloride (75-09-2)	1600		0.39	
methyl ethyl ketone (78-93-3)		78		22.4
methyl isobutyl ketone (108-10-1)		52		7.6
methyl mercaptan (74-93-1)			0.013	
nickel carbonyl (13463-39-3)		0.013		
nickel metal (7440-02-0)		0.13		
nickel, soluble compounds, as nickel		0.013		
nickel subsulfide (12035-72-2)	0.14			
nitric acid (7697-37-2)				0.256
nitrobenzene (98-95-3)		1.3	0.13	
n-nitrosodimethylamine (62-75-9)	3.4			
non-specific chromium (VI) compounds, as chromium (VI) equivalent	0.0056			
pentachlorophenol (87-86-5)		0.063	0.0064	
perchloroethylene (127-18-4)	13000			
phenol (108-95-2)			0.24	
phosgene (75-44-5)		0.052		
phosphine (7803-51-2)				0.032
polychlorinated biphenyls (1336-36- 3)	5.6			
soluble chromate compounds, as chromium (VI) equivalent		0.013		
styrene (100-42-5)			2.7	
sulfuric acid (7664-93-9)		0.25	0.025	
tetrachlorodibenzo-p-dioxin (1746- 01-6)	0.00020			
1,1,2,2-tetrachloroethane (79-34-5)	430			
toluene (108-88-3)		98		14.4
toluene diisocyanate,2,4-(584-84-9) and 2,6- (91-08-7) isomers		0.003		

Obstructed or Non-Vertical Oriented Toxic Air Pollutant Permitting Emission Rates (TPER)				
Pollutant (CAS Number)	Carcinogens	Chronic Toxicants	Acute Systemic Toxicants	Acute Irritants
	lb/yr	lb/day	lb/hr	lb/hr
trichloroethylene (79-01-6)	4000			
vinyl chloride (75-01-4)	26			
vinylidene chloride (75-35-4)		2.5		
xylene (1330-20-7)		57		16.4

(b) A permit to emit toxic air pollutants shall be required for any facility if all emission release points are unobstructed and vertically oriented whose actual rate of emissions from all sources is greater than any one of the following toxic air pollutant permitting emissions rates:

Unobstructed Toxic Air Pollutant Permitting Emission Rates (TPER)				
Pollutant (CAS Number)	Carcinogens	Chronic Toxicants	Acute Systemic Toxicants	Acute Irritants
	lb/yr	lb/day	lb/hr	lb/hr
acetaldehyde (75-07-0)				28.43
acetic acid (64-19-7)				3.90
acrolein (107-02-8)				0.08
acrylonitrile (107-13-1)		1.3	1.05	
ammonia (7664-41-7)				2.84
aniline (62-53-3)			1.05	
arsenic and inorganic arsenic compounds	0.194			
asbestos (1332-21-4)	7.748×10^{-3}			
aziridine (151-56-4)		0.3		
benzene (71-43-2)	11.069			
benzidine and salts (92-87-5)	1.384×10^{-3}			
benzo(a)pyrene (50-32-8)	3.044			
benzyl chloride (100-44-7)			0.53	
beryllium (7440-41-7)	0.378			
beryllium chloride (7787-47-5)	0.378			
beryllium fluoride (7787-49-7)	0.378			
beryllium nitrate (13597-99-4)	0.378			
bioavailable chromate pigments, as chromium (VI) equivalent	0.008			
bis-chloromethyl ether (542-88-1)	0.034			
bromine (7726-95-6)				0.21
1,3-butadiene (106-99-0)	40.585			
cadmium (7440-43-9)	0.507			
cadmium acetate (543-90-8)	0.507			
cadmium bromide (7789-42-6)	0.507			
carbon disulfide (75-15-0)		7.8		
carbon tetrachloride (56-23-5)	618.006			
chlorine (7782-50-5)		1.6		0.95
chlorobenzene (108-90-7)		92.7		
chloroform (67-66-3)	396.631			
chloroprene (126-99-8)		18.5	3.69	
cresol (1319-77-3)			2.32	
p-dichlorobenzene (106-46-7)				69.50
di(2-ethylhexyl)phthalate (117-81-7)		1.3		
dimethyl sulfate (77-78-1)		0.1		

Unobstructed Toxic Air Pollutant Permitting Emission Rates (TPER)				
Pollutant (CAS Number)	Carcinogens	Chronic Toxicants	Acute Systemic Toxicants	Acute Irritants
	lb/yr	lb/day	lb/hr	lb/hr
1,4-dioxane (123-91-1)		23.6		
epichlorohydrin (106-89-8)	7655.891			
ethyl acetate (141-78-6)			147.41	
ethylenediamine (107-15-3)		12.6	2.63	
ethylene dibromide (106-93-4)	36.896			
ethylene dichloride (107-06-2)	350.511			
ethylene glycol monoethyl ether (110-80-5)		5.1	2.00	
ethylene oxide (75-21-8)	2.490			
ethyl mercaptan (75-08-1)			0.11	
fluorides		0.7	0.26	
formaldehyde (50-00-0)				0.16
hexachlorocyclopentadiene (77-47-4)		2.5×10^{-2}	0.01	
hexachlorodibenzo-p-dioxin (57653- 85-7)	0.007			
n-hexane (110-54-3)		46.3		
hexane isomers except n-hexane				379.07
hydrazine (302-01-2)		2.5×10^{-2}		
hydrogen chloride (7647-01-0)				0.74
hydrogen cyanide (74-90-8)		5.9	1.16	
hydrogen fluoride (7664-39-3)		1.3		0.26
hydrogen sulfide (7783-06-4)		5.1		
maleic anhydride (108-31-6)		0.5	0.11	
manganese and compounds		1.3		
manganese cyclopentadienyl tricarbonyl (12079-65-1)		2.5×10^{-2}		
manganese tetroxide (1317-35-7)		0.3		
mercury, alkyl		2.5×10^{-3}		
mercury, aryl and inorganic compounds		2.5×10^{-2}		
mercury, vapor (7439-97-6)		2.5×10^{-2}		
methyl chloroform (71-55-6)		505.4		257.98
methylene chloride (75-09-2)	2213.752		1.79	
methyl ethyl ketone (78-93-3)		155.8		93.19
methyl isobutyl ketone (108-10-1)		107.8		31.59
methyl mercaptan (74-93-1)			0.05	
nickel carbonyl (13463-39-3)		2.5×10^{-2}		
nickel metal (7440-02-0)		0.3		
nickel, soluble compounds, as nickel		2.5×10^{-2}		
nickel subsulfide (12035-72-2)	0.194			
nitric acid (7697-37-2)				1.05
nitrobenzene (98-95-3)		2.5	0.53	
n-nitrosodimethylamine (62-75-9)	4.612			
non-specific chromium (VI) compounds, as chromium (VI) equivalent	0.008			
pentachlorophenol (87-86-5)		0.1	0.03	
perchloroethylene (127-18-4)	17525.534			
phenol (108-95-2)			1.00	
phosgene (75-44-5)		0.1		
phosphine (7803-51-2)				0.14
polychlorinated biphenyls (1336-36- 3)	7.656			
soluble chromate compounds, as chromium		2.6×10^{-2}		

Unobstructed Toxic Air Pollutant Permitting Emission Rates (TPER)				
Pollutant (CAS Number)	Carcinogens	Chronic Toxicants	Acute Systemic Toxicants	Acute Irritants
	lb/yr	lb/day	lb/hr	lb/hr
(VI) equivalent				
styrene (100-42-5)			11.16	
sulfuric acid (7664-93-9)		0.5	0.11	
tetrachlorodibenzo-p-dioxin (1746- 01-6)	2.767 x 10 ⁻⁴			
1,1,2,2-tetrachloroethane (79-34-5)	581.110			
toluene (108-88-3)		197.96		58.97
toluene diisocyanate,2,4-(584-84-9) and 2,6- (91-08-7) isomers		8.4 x 10 ⁻³		
trichloroethylene (79-01-6)	5442.140			
vinyl chloride (75-01-4)	35.051			
vinylidene chloride (75-35-4)		5.1		
xylene (1330-20-7)		113.7		68.44

(c) For the following pollutants, the highest emissions occurring in any 15-minute period shall be multiplied by four and the product shall be compared to the value in Paragraph (a) or (b), as applicable:

- (1) acetaldehyde (75-07-0);
- (2) acetic acid (64-19-7);
- (3) acrolein (107-02-8);
- (4) ammonia (7664-41-7);
- (5) bromine (7726-95-6);
- (6) chlorine (7782-50-5);
- (7) formaldehyde (50-00-0);
- (8) hydrogen chloride (7647-01-0);
- (9) hydrogen fluoride (7664-39-3); and
- (10) nitric acid (7697-37-2).

History Note: Authority G.S. 143-215.3(a)(1); 143-215-107; 143-215.108; 143B-282; Rule originally codified as part of 15A NCAC 02H .0610; Eff. July 1, 1998; Amended Eff. May 1, 2015; May 1, 2014; January 1, 2010; June 1, 2008; April 1, 2005; February 1, 2005; April 1, 2001; Readopted Eff. July 1, 2018.