

3745-266-107

**Standards to control hydrogen chloride and chlorine gas emissions.**

(A) General. The owner or operator must comply with the hydrogen chloride and chlorine gas controls provided by paragraph (B), (C), or (E) of this rule.

(B) Screening limits.

- (1) "Tier I" feed rate screening limits. Feed rate screening limits are specified for total chlorine in appendix I to this rule as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The feed rate of total chlorine and chloride, both organic and inorganic, in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks must not exceed the levels specified.
- (2) "Tier II" emission rate screening limits. Emission rate screening limits for hydrogen chloride and chlorine gas are specified in appendix II to this rule as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The stack emission rates of hydrogen chloride and chlorine gas must not exceed the levels specified.
- (3) Definitions and limitations. The definitions and limitations provided by paragraph (B) of rule 3745-266-106 of the Administrative Code for the following terms also apply to the screening limits provided by paragraphs (B) to (B)(4)(c) of this rule: terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and criteria for facilities not eligible to use the screening limits.
- (4) Multiple stacks. Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on hydrogen chloride or chlorine gas emissions under a hazardous waste facility installation and operation permit or interim standards controls must comply with the "Tier I" and "Tier II" screening limits for those stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics.
  - (a) The worst-case stack is determined by procedures provided in paragraph (B)(6) of rule 3745-266-106 of the Administrative Code.
  - (b) Under "Tier I", the total feed rate of chlorine and chloride to all subject devices must not exceed the screening limit for the worst-case stack.
  - (c) Under "Tier II", the total emissions of hydrogen chloride and chlorine gas

from all subject stacks must not exceed the screening limit for the worst-case stack.

(C) "Tier III" site-specific risk assessments.

- (1) General. Conformance with the "Tier III" controls must be demonstrated by emissions testing to determine the emission rate for hydrogen chloride and chlorine gas, air dispersion modeling to predict the maximum annual average off-site ground level concentration for each compound, and a demonstration that acceptable ambient levels are not exceeded.
- (2) Acceptable ambient levels. Appendix I to rule 3745-266-109 of the Administrative Code lists the reference air concentrations for hydrogen chloride (seven micrograms per cubic meter) and chlorine gas (0.4 micrograms per cubic meter).
- (3) Multiple stacks. Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on hydrogen chloride or chlorine gas emissions under a hazardous waste facility installation and operation permit or interim standards controls must conduct emissions testing and dispersion modeling to demonstrate that the aggregate emissions from all such on-site stacks do not result in an exceedance of the acceptable ambient levels for hydrogen chloride and chlorine gas.

(D) Averaging periods. The hydrogen chloride and chlorine gas controls are implemented by limiting the feed rate of total chlorine and chloride in all feedstreams, including hazardous waste, fuels, and industrial furnace feed stocks. Under "Tier I", the feed rate of total chloride and chlorine is limited to the "Tier I" screening limits. Under "Tier II" and "Tier III", the feed rate of total chloride and chlorine is limited to the feed rates during the trial burn (for new facilities or a permit by rule facility applying for a permit) or the compliance test (for permit by rule facilities). The feed rate limits are based on either:

- (1) An hourly rolling average as defined in paragraph (E)(6) of rule 3745-266-102 of the Administrative Code; or
- (2) An instantaneous basis not to be exceeded at any time.

(E) "Adjusted Tier I" feed rate screening limits. The owner or operator may adjust the feed rate screening limit provided by appendix I to this rule to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate

screening limit is determined by back-calculating from the acceptable ambient level for chlorine gas provided by appendix I to rule 3745-266-109 of the Administrative Code using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the "Adjusted Tier I" feed rate screening limit.

- (F) Emissions testing. Emissions testing for hydrogen chloride and chlorine gas must be conducted using the procedures described in ~~Method~~method 0050 or ~~Method~~ 0051, U.S. EPA Publication~~publication~~ SW-846.
- (G) Dispersion modeling. Dispersion modeling must be conducted according to the provisions of paragraph (H) of rule 3745-266-106 of the Administrative Code.
- (H) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under rule 3745-266-102 of the Administrative Code) will be regarded as compliance with this rule. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this rule may be "information" justifying modification of a permit under rule 3745-50-51 of the Administrative Code.

~~[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference." ]~~

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Effective: 09/05/2010

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CERTIFIED ELECTRONICALLY

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Certification

07/23/2010

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Date

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Rule Amplifies: 3734.12  
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3745-266-107

## AMENDED APPENDIX

1

Appendix I to rule 3745-266-107 of the Administrative Code

Tier I Feed Rate Screening Limits for Total Chlorine			
Terrain-adjusted effective stack height (m)	Noncomplex Terrain		Complex Terrain
	Urban (g/hr)	Rural (g/hr)	(g/hr)
4	8.2E+01	4.2E+01	1.9E+01
6	9.1E+01	4.8E+01	2.8E+01
8	1.0E+02	5.3E+01	4.1E+01
10	1.2E+02	6.2E+01	5.8E+01
12	1.3E+02	7.7E+01	7.2E+01
14	1.5E+02	9.1E+01	9.1E+01
16	1.7E+02	1.2E+02	1.1E+02
18	1.9E+02	1.4E+02	1.2E+02
20	2.1E+02	1.8E+02	1.3E+02
22	2.4E+02	2.3E+02	1.4E+02
24	2.7E+02	2.9E+02	1.6E+02
26	3.1E+02	3.7E+02	1.7E+02
28	3.5E+02	4.7E+02	1.9E+02
30	3.9E+02	5.8E+02	2.1E+02
35	5.3E+02	9.6E+02	2.6E+02
40	6.2E+02	1.4E+03	3.3E+02
45	8.2E+02	2.0E+03	4.0E+02
50	1.1E+03	2.6E+03	4.8E+02
55	1.3E+03	3.5E+03	6.2E+02
60	1.6E+03	4.6E+03	7.7E+02
65	2.0E+03	6.2E+03	9.1E+02
70	2.3E+03	7.2E+03	1.1E+03
75	2.5E+03	8.6E+03	1.2E+03
80	2.9E+03	1.0E+04	1.3E+03
85	3.3E+03	1.2E+04	1.4E+03
90	3.7E+03	1.4E+04	1.6E+03
95	4.2E+03	1.7E+04	1.8E+03
100	4.8E+03	2.1E+04	2.0E+03
105	5.3E+03	2.4E+04	2.3E+03

Tier I Feed Rate Screening Limits for Total Chlorine			
Terrain-adjusted effective stack height (m)	Noncomplex Terrain		Complex Terrain
	Urban (g/hr)	Rural (g/hr)	(g/hr)
110	6.2E+03	2.9E+04	2.5E+03
115	7.2E+03	3.5E+04	2.8E+03
120	8.2E+03	4.1E+04	3.2E+03

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## AMENDED APPENDIX

1

## Appendix II to rule 3745-266-107 of the Administrative Code

Tier II Emission Rate Screening Limits for Free Chlorine and Hydrogen Chloride						
Terrain-adjusted effective stack ht. (m)	Noncomplex terrain				Complex terrain	
	Values for urban areas		Values for rural areas		Values for use in urban and rural areas	
	Cl <sub>2</sub> (g/hr)	HCl (g/hr)	Cl <sub>2</sub> (g/hr)	HCl (g/hr)	Cl <sub>2</sub> (g/hr)	HCl (g/hr)
4	8.2E+01	1.4E+03	4.2E+01	7.3E+02	1.9E+01	3.3E+02
6	9.1E+01	1.6E+03	4.8E+01	8.3E+02	2.8E+01	4.9E+02
8	1.0E+02	1.8E+03	5.3E+01	9.2E+02	4.1E+01	7.1E+02
10	1.2E+02	2.0E+03	6.2E+01	1.1E+03	5.8E+01	1.0E+03
12	1.3E+02	2.3E+03	7.7E+01	1.3E+03	7.2E+01	1.3E+03
14	1.5E+02	2.6E+03	9.1E+01	1.6E+03	9.1E+01	1.6E+03
16	1.7E+02	2.9E+03	1.2E+02	2.0E+03	1.1E+02	1.8E+03
18	1.9E+02	3.3E+03	1.4E+02	2.5E+03	1.2E+02	2.0E+03
20	2.1E+02	3.7E+03	1.8E+02	3.1E+03	1.3E+02	2.3E+03
22	2.4E+02	4.2E+03	2.3E+02	3.9E+03	1.4E+02	2.4E+03
24	2.7E+02	4.8E+03	2.9E+02	5.0E+03	1.6E+02	2.8E+03
26	3.1E+02	5.4E+03	3.7E+02	6.5E+03	1.7E+02	3.0E+03
28	3.5E+02	6.0E+03	4.7E+02	8.1E+03	1.9E+02	3.4E+03
30	3.9E+02	6.9E+03	5.8E+02	1.0E+04	2.1E+02	3.7E+03
35	5.3E+02	9.2E+03	9.6E+02	1.7E+04	2.6E+02	4.6E+03
40	6.2E+02	1.1E+04	1.4E+03	2.5E+04	3.3E+02	5.7E+03
45	8.2E+02	1.4E+04	2.0E+03	3.5E+04	4.0E+02	7.0E+03
50	1.1E+03	1.8E+04	2.6E+03	4.6E+04	4.8E+02	8.4E+03
55	1.3E+03	2.3E+04	3.5E+03	6.1E+04	6.2E+02	1.1E+04
60	1.6E+03	2.9E+04	4.6E+03	8.1E+04	7.7E+02	1.3E+04
65	2.0E+03	3.4E+04	6.2E+03	1.1E+05	9.1E+02	1.6E+04
70	2.3E+03	3.9E+04	7.2E+03	1.3E+05	1.1E+03	1.8E+04
75	2.5E+03	4.5E+04	8.6E+03	1.5E+05	1.2E+03	2.0E+04
80	2.9E+03	5.0E+04	1.0E+04	1.8E+05	1.3E+03	2.3E+04
85	3.3E+03	5.8E+04	1.2E+04	2.2E+05	1.4E+03	2.5E+04
90	3.7E+03	6.6E+04	1.4E+04	2.5E+05	1.6E+03	2.9E+04
95	4.2E+03	7.4E+04	1.7E+04	3.0E+05	1.8E+03	3.2E+04
100	4.8E+03	8.4E+04	2.1E+04	3.6E+05	2.0E+03	3.5E+04
105	5.3E+03	9.2E+04	2.4E+04	4.3E+05	2.3E+03	3.9E+04

Tier II Emission Rate Screening Limits for Free Chlorine and Hydrogen Chloride						
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	Cl <sub>2</sub> (g/hr)	HCl (g/hr)	Cl <sub>2</sub> (g/hr)	HCl (g/hr)	Cl <sub>2</sub> (g/hr)	HCl (g/hr)
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115	7.2E+03	1.3E+05	3.5E+04	6.1E+05	2.8E+03	5.0E+04
120	8.2E+03	1.4E+05	4.1E+04	7.2E+05	3.2E+03	5.6E+04

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