

**NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division for Air Quality**

**401 KAR 63:021. Existing sources emitting toxic air pollutants.**

**RELATES TO: KRS 224.20-100, 224.20-110, 224.20-120**

**STATUTORY AUTHORITY: KRS 224.10-100, 224.01-400**

**NECESSITY AND FUNCTION: KRS 224.10-100 requires the Natural Resources and Environmental Protection Cabinet to prescribe regulations for the prevention, abatement, and control of air pollution. This regulation provides for the control of emissions of toxic air pollutants.**

**Section 1. Applicability. (1) The provisions of this regulation shall apply to each affected facility commenced before the effective date of this regulation which emits toxic air pollutants as defined in Section 2 of this regulation.**

**(2) The provisions of this regulation shall not apply to the following:**

**(a) Emissions which are regulated under Title 401, Chapter 57, or 40 CFR 61 (National Emission Standards for Hazardous Air Pollutants).**

**(b) Laboratory equipment used for chemical or physical analysis or experimentation.**

**(c) Dry cleaning facilities.**

**(d) Sources which emit less than the significant levels specified in Appendix B, adjusted for height of release and hours of operation per week pursuant to Appendix C to this regulation.**

**(e) Indirect heat exchangers using fossil fuel, except for indirect heat exchangers which burn waste material containing toxic substances.**

**(f) Gasoline dispensing facilities other than gasoline bulk plants and terminals.**

**(g) Agricultural operations.**

**Section 2. Definitions. As used in this regulation, all terms not defined herein shall have the meaning given to them in 401 KAR 50:010.**

**(1) "Toxic air pollutant" means a substance which is listed in Appendix B of this regulation.**

(2) "Affected facility" means an apparatus, building, operation or other entity or series of entities which emits or may emit any toxic air pollutant into the outdoor atmosphere.

(3) "Threshold ambient limit (TAL)" means the concentration level in the ambient air of a toxic air pollutant, calculated pursuant to Appendix B to this regulation.

(4) "Reasonably available control technology" means the lowest emission limit that a particular affected facility is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

**Section 3. Control of Toxic Air Pollutants.** (1) Except as provided in subsection (2) of this section, no owner or operator shall allow any source to exceed the allowable emission limit determined by the formula specified in Appendix A to this regulation.

(2) Where a threshold ambient limit for a toxic air pollutant is not specified in Appendix B to this regulation, or where the owner or operator can demonstrate to the satisfaction of the cabinet that the allowable emission limit referenced in subsection (1) of this section cannot be met even after the application of reasonably available control technology, then reasonably available control technology shall be required.

(3) As used in this regulation, allowable emission limit is applicable to each toxic air pollutant and applied to the source as a whole. The provisions of 401 KAR 50:042 shall not apply when determining an allowable emission limit of a toxic air pollutant.

(4) The maximum ground level concentration as applied in Appendix A is determined for the affected facility, or a series of affected facilities within the source, through the application of an approved dispersion model specified in "Guideline on Air Quality Models," filed by reference in 401 KAR 50:015. For the purpose of this regulation, no additive effect or interaction among sources is presumed in determining maximum ground level concentration.

(5) Demonstration of compliance with emission limits may be made through calculations. Continued compliance shall be demonstrated through production and throughput records, maintenance schedules and operating practices, and/or as specified as a permit condition.

(6) The cabinet may upon request assist the owner or operator in determining the applicable emission limits for the source. The cabinet shall charge no fee for this service, except as required in 401 KAR 50:036.

**Section 4. Public Participation.** Except for fertilizer dispensing facilities, the cabinet shall notify the public through prominent advertisement in a newspaper of general circulation in the region in which the source is located, of the cabinet's intention to accept a compliance schedule or demonstration of reasonably available control technology as a part of an operating permit issued pursuant to this regulation. The cabinet shall afford the public the opportunity to submit written comments on the cabinet's intended action within thirty (30) days following the publication of said

advertisement. The cabinet shall consider these comments in its decision to issue the operating permit.

**Section 5. Compliance Timetable.** (1) The owner or operator of an affected facility which constructed or received a permit to construct or operate before the effective date of this regulation shall within twelve (12) months following the effective date of this regulation submit either:

(a) A permit application to operate the source which ensures compliance with the provisions of this regulation; or

(b) A permit application to operate the source with a compliance schedule that will enable the source to achieve compliance with the provisions of this regulation as expeditiously as possible but not later than two and a half (2 1/2) years following the effective date of this regulation.

(2) A compliance schedule identified in subsection (1)(b) of this section shall contain the following elements:

(a) A commitment for submission of a control plan for achieving compliance with this regulation. Submission of control plan shall not be more than six (6) months following the submission date of the compliance schedule.

(b) The date by which the control system installation contract will be awarded.

(c) The date by which construction or installation of the emission control equipment or implementation of control measures will be initiated.

(d) The date by which on-site construction or installation of emission control equipment or implementation of control measures will be completed.

(e) The date by which final compliance will be demonstrated and which is within sixty (60) days following completion of installation of the control system or implementation of the control measures.

(3) The cabinet shall issue an operating permit contingent upon an acceptable compliance schedule.

(4) Requests for extension of the timetable presented in this section may be made to the director in writing. Extensions may be granted upon the demonstration to the cabinet's satisfaction that strict compliance with the timetable is unattainable for reasons beyond the reasonable control of the source.

**Section 6. Failure of the owner or operator to comply with the provisions of this regulation may result in the denial or revocation of an operating permit for the noncomplying affected facility.**

**Effective Date: November 11, 1986**

## APPENDIX A TO 401 KAR 63:021

## Allowable Emission Limit

The following equation shall be used to determine the allowable emission limit for a toxic air pollutant.

$$E_{\text{Allowable}} = E_{\text{Actual}} \times \frac{\text{TAL}}{C}$$

Where:

- $E_{\text{Allowable}}$  = Allowable emission limit in pounds per hour, expressed as an average for a time averaging period corresponding to the TAL time average.
- $E_{\text{Actual}}$  = Actual emission rate in pounds per hour.
- TAL = Threshold ambient limit determined using the formula in Appendix B to this regulation.
- C = Maximum ground level concentration in the ambient air estimated through the use of a dispersion model specified in the "Guideline on Air Quality Models."

## APPENDIX B TO 401 KAR 63:021

Threshold Ambient Limits and Significant Emission Levels  
of Toxic Air Pollutants

Substance	Y*	Average Time	Significant Levels (M)** Pounds Per Hour
1,1,1-Trichloroethane (Methyl chloroform)	7600.00	8-hour	4.848E-01
1,1,2-Trichloroethane	180.00	8-hour	1.148E-02
1,3-Butadiene	88.00	8-hour	5.613E-03
4,4'-Methylenebis (2-chloro-aniline) (MOCA)	RACT		5.613E-05
Acetaldehyde	720.00	8-hour	4.593E-02
Acetic acid	100.00	8-hour	6.379E-03
Acetone	7120.00	8-hour	4.542E-01
Acrolein	1.00	8-hour	6.379E-05
Acrylic acid	120.00	8-hour	7.655E-03
Acrylonitrile	RACT		1.148E-03
Allyl chloride	12.00	8-hour	7.654E-04
Ammonia	72.00	8-hour	4.593E-03
Ammonium chloride	40.00	8-hour	2.551E-03
Antimony and compounds, as Sb	2.00	8-hour	1.276E-04
Arsenic and arsenic compounds	RACT		5.103E-05
Barium, soluble compounds, as Ba	2.00	8-hour	1.276E-04
Benzene	RACT		7.654E-03
Benzo(a)anthracene	RACT		5.100E-07
Benzo(a)pyrene	RACT		5.100E-07
Cadmium	RACT		1.276E-05
Calcium hydroxide	20.00	8-hour	1.276E-03
Carbon disulfide	120.00	8-hour	7.655E-03
Carbon tetrachloride	RACT		7.654E-03
Chlorine	12.00	8-hour	7.654E-04
Chlorine dioxide	1.20	8-hour	7.654E-05
Chloroform	RACT		1.276E-02
Chlorophenols	RACT		5.100E-07
Chromium VI	RACT		1.276E-05
Cumene	980.00	8-hour	6.251E-02
Cyanides, as CN	20.00	8-hour	1.276E-03
Diacetone alcohol	960.00	8-hour	6.124E-02
Dimethylamine	72.00	8-hour	4.593E-03
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin)	RACT		5.100E-07
Ethyl benzene	1740.00	8-hour	1.110E-01
Ethylene dibromide	RACT		5.100E-07

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Substance	Y*	Average Time	Significant Levels (M)** Pounds Per Hour
Ethylene dichloride (EDC)	RACT		1.021E-02
Ethylene oxide	RACT		5.103E-04
Formaldehyde	RACT		3.827E-04
Formic acid	36.00	8-hour	2.296E-03
Hexylene glycol	500.00	1-hour	2.240E-02
Hydrogen bromide	40.00	8-hour	2.551E-03
Hydrogen chloride	28.00	1-hour	1.254E-03
Maleic anhydride	4.00	8-hour	2.551E-04
Manganese dust and compounds as Mn	20.00	1-hour	8.959E-04
Manganese fume, as Mn	4.00	8-hour	2.551E-04
Mercury, alkyl compounds, as Hg	0.04	8-hour	2.551E-06
Mercury, as Hg, All forms except alkyl vapor	0.20	8-hour	1.276E-05
Mercury, as Hg, Aryl and inorganic compounds	0.40	8-hour	2.551E-05
Methanol	1040.00	8-hour	6.634E-02
Methyl bromide	80.00	8-hour	5.103E-03
Methyl chloride	420.00	8-hour	2.679E-02
Methyl ethyl ketone	2360.00	8-hour	1.505E-01
Methylamine	48.00	8-hour	3.062E-03
Methylene bisphenyl isocyanate (MDI)	0.80	1-hour	3.583E-05
Methylene chloride (Dichloromethane)	1400.00	8-hour	8.930E-02
Nickel carbonate	RACT		2.551E-05
Nickel carbonyl	RACT		8.930E-05
Nickel metal	RACT		2.551E-04
Nickel oxide	RACT		2.551E-05
Nickel subsulfide	RACT		2.551E-04
Nickel, soluble compounds, as Ni	RACT		2.551E-05
Nitric acid	20.00	8-hour	1.276E-03
Nonane	4200.00	8-hour	2.679E-01
n-Butanol	600.00	1-hour	2.688E-02
n-Hexane	720.00	8-hour	4.593E-02
Pentachlorophenol	2.00	8-hour	1.276E-04
Perchloroethylene	1340.00	8-hour	8.548E-02
Phenol	76.00	8-hour	4.848E-03
Phosphoric acid	4.00	8-hour	2.551E-04
Potassium hydroxide	8.00	1-hour	3.583E-04
Propargyl alcohol	8.00	8-hour	5.103E-04

**APPENDIX B TO 401 KAR 63:021  
(continued)**

**Threshold Ambient Limits and Significant Emission Levels  
of Toxic Air Pollutants**

<b>Substance</b>	<b>Y*</b>	<b>Average Time</b>	<b>Significant Levels (M)** Pounds Per Hour</b>
Propylene dichloride	1400.00	8-hour	8.930E-02
Propylene oxide	200.00	8-hour	1.276E-02
Selenium compounds, as Se	0.80	8-hour	5.103E-05
Silver, metal	0.40	8-hour	2.551E-05
Silver, soluble compounds, as Ag	0.04	8-hour	2.551E-06
Sodium hydroxide	8.00	1-hour	3.583E-04
Styrene, monomer	860.00	8-hour	5.486E-02
Sulfuric acid	4.00	8-hour	2.551E-04
Tetrahydrofuran	2360.00	8-hour	1.505E-01
Tetrasodium pyrophosphate	20.00	8-hour	1.276E-03
Tin, organic compound, as Sn	0.40	8-hour	2.551E-05
Tin, oxide, metal and inorganic compounds except SnH <sub>4</sub> , as Sn	8.00	8-hour	5.103E-04
Titanium dioxide	20.00	8-hour	1.276E-03
Toluene	1500.00	8-hour	9.568E-02
Toluene 2,4-Diisocyanate (TDI)	0.16	8-hour	1.021E-05
Trichloroethylene	1080.00	8-hour	6.889E-02
Trimethylamine	96.00	8-hour	6.124E-03
Vinyl acetate	120.00	8-hour	7.654E-03
Xylene (o-, m-, p-isomers)	1740.00	8-hour	1.110E-01
Zinc chloride fume	4.00	8-hour	2.551E-04
Zinc oxide fume	20.00	8-hour	1.276E-03

\* Threshold Ambient Limit, TAL, mg/m<sup>3</sup> =  $\frac{Y}{T}$

where T = Hours of emission of the substance per week from the source, except that  
T = 40 if the hours per week of emission are less than 40.

\*\*The Significant Levels (M) may be adjusted for the height of release, H, and hours of emission, T, using the procedures in Appendix C.

## APPENDIX C TO 401 KAR 63:021

Correction Factors for Height of Release  
and Hours of Emission

Minimum Height of Release (H)		Height of Release Correction Factor (K)
(meters)	(feet)	
1	3.3	1
2	6.6	4
3	9.9	12
4	13.1	24
5	16.4	41
6	19.7	62
7	23.0	89
8	26.2	121
9	29.5	159
10	32.8	204
15	49.2	489
20	65.6	901
25	82.0	1429
30	98.4	2037
35	114.8	2738
40	131.2	3535
45	147.6	4418
50	164.0	5394
55	180.4	6405
60	196.9	7494
65	213.3	8622

The Significant Level (L) in Section 1(2)(d) shall be calculated from the formula:

$$L = M \times K \times \frac{168}{T}$$

Where:

L = Adjusted significant level (lbs/hr).

M = Significant level (lbs/hr) for the substance as listed in Appendix B.

K = Height of release correction factor from the table above. H is the minimum height of release of the substance from the source. When H is between two (2) values, the lower number shall be used.

T = Hours of emission of the substance per week from the source, except that T = 40 if the hours per week of emission are less than 40.