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DEPARTMENT OF LABOR AND ECONOMIC OPPORTUNITY

AGRICULTURAL STANDARD

Filed with the Secretary of State on **August 11, 2003**

These rules take effect 7 days after filing with the Secretary of State

(By authority conferred on the director of the department of consumer and industry services by sections 14 and 24 of 1974 PA 154 and Executive Reorganization Orders Nos. 1996-1 and 1996-2, MCL 408.1014, 408.1024, 330.3101, and 445.2001)

R 325.2401, R 325.2402, R 325.2403, R 325.2404, R 325.2405, R 325.2410, R 325.2411, R 325.2412, R 325.2413, R 325.2414, R 325.2415, R 325.2416, R 325.2417, R 325.2418, R 325.2419, R 325.2421, R 325.2422, R 325.2424, R 325.2429, R 325.2430, R 325.2431, R 325.2434, R 325.2435, R 325.2436, R 325.2437, R 325.2438, R 325.2439, R 325.2440, R 325.2441, R 325.2442, R 325.2442a, R 325.2442b, R 325.2442c, R 325.2443, R 325.2444, R 325.2445, R 325.2446, R 325.2447, and R 325.2448 of the Michigan Administrative Code are amended as follows:

PART 700, AGRICULTURE

Table of Contents:

R 325.2401 Scope.

Rule 1. These rules apply only to places of employment.

R 325.2402 General definitions.

Rule 2. As used in these rules:

(a) "Aerosol" means particulate matter suspended in air.

(b) "Contaminant" means an airborne material capable of causing occupational disease or significant physiological disturbances to a person, and includes, but is not limited to, the substances listed in R 325.2413 to R 325.2419.

(c) "Director" means the director of the department of consumer and industry services or the designee of the director.

(d) "Employer" means an individual or type of organization which has in its employ 1 or more individuals performing services for it.

(e) "Gas" means a normally formless fluid which occupies a space or enclosure and which can be changed to the liquid or solid state by the effect of increased pressure or decreased temperature, or both.

(f) "Inert gas" means a gas or vapor which acts primarily as a simple asphyxiant without other significant physiological effect, recognizing that an inert gas may have flammable or explosive characteristics.

(g) "Inert particulate" means an aerosol which does not produce significant organic disease or toxic effect in a lung-tissue reaction from any of the following:

(i) The architecture of the air spaces remains intact.

(ii) Collagen (scar tissue) is not formed to a significant extent.

(iii) The tissue reaction is potentially reversible.

(h) "Particulate matter" means fine solid or liquid particles.

(i) "Physical agent" means a form of energy transmitted directly or through the air from the point of emission to the receiver.

(j) "Vapor" means the gaseous state of a substance.

R 325.2403 Definitions pertaining to contaminants.

Rule 3. As used in these rules:

(a) "Maximum allowable concentration" or "MAC" means the threshold limit value or the time-weighted average 8-hour airborne concentration of a contaminant to which a person may be safely exposed. R 325.2413 to R 325.2419, tables 1 to 7, refer to the MAC of a particular contaminant.

(b) "Mg/M^3" means milligrams of particulate per cubic meter of air.

(c) "Mppcf" means millions of particulates per cubic foot of air based on impinger samples counted by light field microscopic techniques.

(d) "Non-respirable atmosphere" means an atmosphere which contains insufficient oxygen, or an elevated level of contaminants, which may render a person incapable of self-rescue.

(e) "Ppm" means parts of vapor or gas per million parts of air by volume at 25 degrees Celsius and 760 millimeters of mercury pressure.

(f) "Source" means a process or equipment which releases a contaminant into the air in concentrations exceeding the MAC.

R 325.2404 Definitions pertaining to noise.

Rule 4. As used in these rules:

(a) "Auditory protective equipment" means ear plugs, muffs, or other protective devices worn by an exposed person to attenuate airborne noise pressure in the ear canal.

(b) "Broad-band noise" means noise generally distributed throughout the sound frequency spectrum.

(c) "Continuous noise" means an uninterrupted noise or more than 60 noises per minute.

(d) "dBA" means the airborne sound pressure level measured with the "A" weighting network of a sound level meter.

(e) "Decibel" or "dB" means a dimensionless unit expressing the ratio of 2 sound quantities in logarithmic form, 1 of which quantities is a reference level of 0.0002 microbar.

(f) "Impact noise meter" means an instrument used for the measurement of peak sound pressures of impulse.

(g) "Impulse noise" means a single noise or 60 or less noises per minute.

(h) "Noise" means airborne sound in the frequency range from 20 to 20,000 hertz or cycles per second.

(i) "Sound level meter" means an instrument, whose characteristics comply with those specified in the American standards association, standard S1.4-1961, used for the measurement of the airborne sound pressure level.

R 325.2405 Definitions pertaining to respirators.

Rule 5. As used in these rules:

(a) "Atmosphere immediately dangerous to life or health" means a non-respirable atmosphere.

(b) "Canister" means a container filled with air-purifying media to remove gases and vapors from air drawn through the container. The canister may also contain an aerosol filter to remove solid or liquid particulate matter.

(c) "Cartridge" means a canister having reduced air-purifying capacity.

(d) "Facepiece" means that portion of a respirator that is designed to make a gastight or dust-tight fit with the face and includes the headbands, exhalation valves, and connections for an air-purifying device or respirable-gas source. A half-mask facepiece covers the wearer's nose and mouth. A full-mask facepiece covers the wearer's nose, mouth, and eyes.

(e) "Filter" means a media used in a respirator to remove solid or liquid particulate matter from air drawn through the respirator.

(f) "Respiratory protective equipment" means a device or system designed to protect the wearer from inhalation of unhealthful atmospheres.

(g) "Respirator" means a type of respiratory protective equipment.

R 325.2410 Definitions pertaining to controls.

Rule 10. As used in these rules:

(a) "Control" means the limitation of worker exposure to contaminate levels not exceeding the MAC.

(b) "Controlled process" means an arrangement of equipment to control the contaminant by means of suitable design measures.

(c) "Enclosure" means a room, booth, or exhaust hood that confines contaminants at their sources.

(d) "General ventilation" means the supply and removal of air from a space to dilute or remove contaminants.

(e) "Local exhaust ventilation system" means an arrangement of exhaust hoods, ducts, and fans that removes air to control a contaminant at its source.

(f) "Process space" means a tunnel, process equipment, shaft, or enclosed space.

(g) "Supply ventilation system" means an arrangement of inlet openings or equipment to introduce outside air into the working environment.

R 325.2411 Contaminants; exposure; MACs.

Rule 11. (1) An employer shall not allow the exposure of a person to concentrations of a contaminant in excess of the limit expressed by the contaminant's MAC as established in R 325.2412 to R 325.2419.

(2) An employer shall not allow the exposure of a person to a contaminant or combination of contaminants in concentrations which are hazardous or injurious to the person's health.

R 325.2412 Maximum allowable concentrations.

Rule 12. (1) Maximum allowable concentrations of air contaminants based on a repeated 8-hour work day exposure are in tables 1 to 7 in R 325.2413 to R 325.2419.

(2) A substance in tables 1 to 6 in R 325.2413 to R 325.2418, which is preceded by A, C, or S, is an especially hazardous contaminant and all of the following precautions shall be taken:

(a) If the substance is preceded by "A," then the employer shall not allow a person or any part of his or her anatomy to be exposed to or come in contact with the substance by any respiratory, oral, or skin route.

(b) If the substance is preceded by "C," then its MAC means the highest concentration at which an employer may allow a person to be exposed at any time.

(c) If the substance is preceded by "S," then an employer shall provide necessary precautions against skin absorption of the contaminant by a person.

R 325.2413 Maximum allowable concentrations for substances A and B.
Rule 13. Table 1 reads as follows:

TABLE 1			
Substance		**MAC**	
		ppm	**mg/m^3**
	Abate	---	15
	Acetaldehyde	200	360
	Acetic acid	10	25
	Acetic anhydride	5	20
	Acetone	1,000	2,400
	Acetonitrile	40	70
	Acetylene	Inert gas	
	Acetylene dichloride	See 1,2-Dichloroethylene	
	Acetylene tetrabromide	1	14
	Acrolein	0.1	0.25
S	Acrylamide	---	0.3
S	Acrylonitrile	(See R 325.51501 et seq.*)	
S	Aldrin	---	0.25
S	Allyl alcohol	2	5
	Allyl chloride	1	3
C	Allyl glycidyl ether (AGE)	10	45
	Allyl propyl disulfide	2	12
	Alundum, ($Al_2 0_3$)	Inert dust	
	2-Aminoethanol	See Ethanolamine	
	2-Aminopyridine	0.5	2
	Ammonia	50	35
	Ammonium sulfamate (amate)	---	15
	n-Amyl acetate	100	525
	sec-Amyl acetate	125	650
S	Aniline	5	19
S	Anisidine (o,p-isomers)	---	0.5
	Antimony & compounds (as Sb)	---	0.5
	ANTU (alpha naphthyl thiourea)	---	0.3
	Argon	Inert gas	
	Arsenic, inorganic compounds	---	0.5
	Arsenic, organic compounds (as As)	---	0.5
	Arsine	0.05	0.2
S	Azinphos-methyl	---	0.2

TABLE 1			
Substance		MAC	
		ppm	mg/m^3
	Barium (soluble compounds)	---	0.5
S,C	Benzene (benzol) (See R 325.77101 et seq.*)		
A,S	Benzidine	---	---
	P-Benzoquinone See Quinone		
	Benzoyl peroxide	---	5
	Benzyl chloride	1	5
	Beryllium	---	0.002
	Biphenyl See Diphenyl		
	Bisphenol A See Diglycidyl ether		
	Boron oxide	---	15
	Boron tribromide	1	10
C	Boron trifluoride	1	3
	Bromine	0.1	0.7
	Bromine pentafluoride	0.1	---
S	Bromoform	0.5	5
	Butadiene (1,3-butadiene) (See R 325.50091 et seq.*)		
	Butanethiol See Butyl mercaptan		
	2-Butanone	200	590
S	2-Butoxy ethanol (butyl cellosolve)	50	240
	Butyl acetate (n-butyl acetate)	150	710
	sec-Butyl acetate	200	950
	tert-Butyl acetate	200	950
	Butyl alcohol	100	300
	sec-Butyl alcohol	150	450
	tert-Butyl alcohol	100	300
S,C	Butylamine	5	15
S,C	tert-Butyl chromate (as $Cr0_3$)	---	0.1
	n-Butyl glycidyl ether (BGE)	50	270
	Butyl mercaptan	0.5	1.5
	p-tert-Butyltoluene	10	60
A, C, and S See R 325.2412.			
***Caution--these rules contain extensive requirements for exposure to these substances.**			

R 325.2414 Maximum allowable concentrations for substances C and D.
Rule 14. Table 2 reads as follows:

TABLE 2			
Substance		**MAC**	
		ppm	**mg/m³**
	Cadmium (metal dust and soluble salts) (See R 325.51851 et seq.*)		
C	Cadmium oxide fume (as Cd) (See R 325.51851 et seq.*)		
	Calcium arsenate	---	1
	Calcium carbonate	Inert dust	
	Calcium oxide	---	5
	Camphor (synthetic)	2	---
	Carbaryl (Sevin®)	---	5
	Carbon black	---	3.5
	Carbon dioxide	5,000	9,000
S	Carbon disulfide	20	60
	Carbon monoxide	50	55
S,C	Carbon tetrachloride	10	65
	Cellulose (paper fiber)	Inert dust	
S	Chlordane	---	0.5
S	Chlorinated camphene	---	0.5
	Chlorinated diphenyl oxide	---	0.5
	Chlorine	1	3
	Chlorine dioxide	0.1	0.3
C	Chlorine trifluoride	0.1	0.4
C	Chloroacetaldehyde	1	3
	alpha-Chloroacetophenone (phenacylchloride)	0.05	0.3
	Chlorobenzene (monochlorobenzene)	75	350
	o-Chlorobenzylidene malononitrile (OCBM)	0.05	0.4
	Chlorobromomethane	200	1,050
	2-Chloro-1,3-butadiene See Chloroprene		
S	Chlorodiphenyl (42% Chlorine)	---	1
S	Chlorodiphenyl (54% Chlorine)	---	0.5
	1-Chloro-2,3-epoxypropane See Epichlorohydrin		
	2-Chloroethanol See Ethylene chlorohydrin		
	Chloroethylene See Vinyl chloride		
C	Chloroform (trichloromethane)	50	240
	1-Chloro-1-nitropropane	20	100
	Chloropicrin	0.1	0.7

TABLE 2			
Substance		**MAC**	
		ppm	**mg/m³**
S	Chloroprene (2-chloro-1,3-butadiene)	25	90
	Chromic acid and chromates (as $Cr0_3$)	---	0.1
	Chromium, sol. chromic & chromous salts		
	• (as Cr)	---	0.5
	• Metal & insol. salts	---	1
	Coal tar pitch volatiles (benzene soluble fraction: • anthracene, BaP, phenanthrene, acridine, chrysene, pyrene)	---	0.2
	Cobalt, metal fume & dust	---	0.1
	Coke oven emissions (See R 325.50101 et seq.*)		
	Copper fume	---	0.1
	• Dusts and mists	---	1
	Corundum (Al_20_3)	Inert dust	
	Cotton dust (raw)	---	1
	Crag® herbicide	---	15
S	Cresol (all isomers)	5	22
	Crotonaldehyde	2	6
S	Cumene	50	245
S	Cyanide (as CN)	---	5
	Cyanogen	10	---
	Cyclohexane	300	1,050
	Cyclohexanol	50	200
	Cyclohexanone	50	200
	Cyclohexene	300	1,015
	Cyclopentadiene	75	200
	2,4-D	---	10
S	(Dichlorodiphenyltrichloroethane)	---	1
	DDVP See Dichlorvos		
S	Decaborane	0.05	0.3
S	Demeton®	---	0.1
	Diacetone alcohol (4-hydroxy-4-methyl-2-pentanone)	50	240
	1,2-Diainoethane See Ethylenediamine		
	Diazomethane	0.2	0.4
	Diborane	0.1	0.1
S,C	2-Dibromoethane (ethylene dibromide)	25	190
	Dibutyl phosphate	1	5

TABLE 2			
Substance		MAC	
		ppm	mg/m^3
	Dibutyl phthalate	---	5
C	Dichloroacetylene	0.1	0.4
C	o-Dichlorobenzene	50	300
	p-Dichlorobenzene	75	450
	Dichlorodifluoromethane	1,000	4,950
	1,3-Dichloro-5,5-dimethyl hydantoin	---	0.2
	1,1-Dichloroethane	100	400
	1,2-Dichloroethane	50	200
	1,2-Dichloroethylene	200	790
S,C	Dichloroethyl ether	15	90
	Dichloromethane See Methylene chloride		
	Dichloromonofluoromethane	1,000	4,200
C	1,1-Dichloro-l-nitroethane	10	60
	1,2-Dichloropropane See Propylene dichloride		
	Dichlorotetrafluoroethane	1,000	7,000
S	Dichlorvos (DDVP)	---	1
S	Dieldrin	---	0.25
	Diethyl	25	75
S	Diethylamino, ethanol	10	50
S,C	Diethylene triamine	10	42
	Diethyl ether See Ethyl ether		
	Difluorodibromomethane	100	860
C	Diglycidyl ether (DGE)	0.5	2.8
	Dihydroxybenzene See Hydroquinone		
	Diisobutyl ketone	50	290
S	Diisopropylamine	5	20
	Dimethoxymethane See Methylal		
S	Dimethyl acetamide	10	35
	Dimethylamine	10	18
	Dimethylaminobenzene See Xylidene		
S	Dimethylaniline (N-dimethylaniline)	5	25
	Dimethylbenzene See Xylene		
	Dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate (Dibrom®)	---	3
S	Dimethylformamide	10	30

TABLE 2			
Substance		**MAC**	
		ppm	**mg/m^3**
	2,6-Dimethylheptanone See Diisobutyl ketone		
S	1,1-Dimethylhydrazine	0.5	1
	Dimethylphthalate	---	5
S	Dimethylsulfate	1	5
S	Dinitrobenzene (all isomers)	---	1
S	Dinitro-o-cresol	---	0.2
S	Dinitrotoluene	---	1.5
S	Dioxane (diethylene dioxide)	100	360
	Diphenyl	0.2	1
	Diphenyl amine	---	10
	Diphenylmethane diisocyanate See Methylene bisphenyl isocyanate (MDI)		
S	Dipropylene glycol methyl ether	100	600
	Di-sec,octyl phthalate (di-2-ethylhexylphthalate)	---	5
A, C, and S See R 325.2412.			
***Caution--these rules contain extensive requirements for exposure to these substances.**			

R 325.2415 Maximum allowable concentrations for substances E to H.
Rule 15. Table 3 reads as follows:

TABLE 3			
	Substance	**MAC**	
		ppm	**mg/m³**
	Emery	Inert dust	
S	Endosulfan (Thiodan®)	---	0.1
S	Endrin	---	0.1
S	Epichlorohydrin	5	19
S	EPN	---	0.5
	1,2-Epoxypropane	See Propylene oxide	
	2,3-Epoxy-l-propanol	See Glycidol	
	Ethane	Inert gas	
	Ethanethiol	See Ethyl mercaptan	
	Ethanolamine	3	6
S	2-Ethoxyethanol	200	740
S	2-Ethoxyethylacetate (cellosolve acetate)	100	540
	Ethyl acetate	400	1,400
S	Ethyl acrylate	25	100
	Ethyl alcohol (ethanol)	1,000	1,900
	Ethylamine	10	18
	Ethyl sec-amyl ketone (5-methyl-3-heptanone)	25	130
	Ethyl benzene	100	435
	Ethyl bromide	200	890
	Ethyl butyl ketone (3-heptanone)	50	230
	Ethyl chloride	1,000	2,600
	Ethyl ether	400	1,200
	Ethyl formate	100	300
	Ethyl mercaptan	0.5	1
	Ethyl silicate	100	850
	Ethylene	Inert gas	
S	Ethylene chlorohydrin	5	16
	Ethylenediamine	10	25
	Ethylene dibromide	See 1,2-Dibromoethane	
	Ethylene dichloride	See 1,2-Dichloroethane	
S,C	Ethylene glycol dinitrate and/or Nitroglycerin	0.2	
	Ethylene glycol monomethyl ether acetate	See Methyl cellosolve acetate	
S	Ethyleneimine	0.5	1

TABLE 3			
Substance		MAC	
		ppm	mg/m^3
	Ethylene oxide (See R 325.51151 et seq.*)		
	Ethylidine chloride See 1,1-Dichloroethane		
S	N-Ethylmorpholine	20	94
	Ferbam	---	15
	Ferrovanadium dust	---	1
	Fibrous glass	Inert dust	
	Fluoride (as F)	---	2.5
	Fluorine	0.1	0.2
	Fluorotrichloromethane	1,000	5,600
C	Formaldehyde (See R 325.51451 et seq.*)		
	Formic acid	5	9
S	Furfural	5	20
	Furfuryl alcohol	50	200
	Gasoline (limits will be based on aromatic hydrocarbons in mixture)		
	Glycerine mist		Inert mist
	Glycidol (2,3-epoxy-l-propanol)	50	150
	Glycol monoethyl ether See 2-Ethoxyethanol		
	Graphite (synthetic)	Inert dust	
	Guthion® See Azinphos-methyl		
	Gypsum	Inert dust	
	Hafniun	---	0.5
	Helium	Inert gas	
S	Heptachlor	---	0.5
	Heptane (n-heptane)	500	2,000
S	Hexachloroethane	1	10
S	Hexachloronaphthalene	---	0.2
	Hexane (n-hexane)	500	1,800
	2-Hexanone	100	410
	Hexone (methyl isobutyl ketone)	100	410
	sec-Rexyl acetate	50	300
S	Hydrazine	1	1.3
	Hydrogen	Inert gas	
	Hydrogen bromide	3	10
C	Hydrogen chloride	5	7

TABLE 3			
Substance		**MAC**	
		ppm	**mg/m^3**
S	Hydrogen cyanide	10	11
	Hydrogen fluoride	3	2
	Hydrogen peroxide	1	1.4
	Hydrogen selenide	0.05	0.2
	Hydrogen sulfide	10	15
	Hydroquinone	---	2
A, C, and S See R 325.2412.			
***Caution--these rules contain extensive requirements for exposure to these substances.**			

R 325.2416 Maximum allowable concentrations for substances I to M.
Rule 16. Table 4 reads as follows:

TABLE 4			
Substance		MAC	
		ppm	mg/m^3
	Indene	10	45
	Indium and compounds (as In)	---	0.1
C	Iodine	0.1	1
	Iron oxide fume	---	10
	Iron salts, soluble (as Fe)	---	1
	Isoamyl acetate	100	525
	Isoamyl alcohol	100	360
	Isobutyl acetate	150	700
	Isobutyl alcohol	100	300
	Isophorone	25	140
	Isopropyl acetate	250	950
	Isopropyl alcohol	400	980
	Isopropylamine	5	12
	Isopropyl ether	500	2,100
	Isopropyl glycidyl ether (IGE)	50	240
	Kaolin	Inert dust	
	Ketene	0.5	0.9
	Lead	---	0.2
	Lead arsenate	---	0.15
	Limestone	Inert dust	
S	Lindane	---	0.5
	Lithium hydride	---	0.025
	L.P.G. (liquified petroleum gas)	1,000	1,800
	Magnesite	Inert dust	
	Magnesium oxide fume	---	15
S	Malathion	---	15
	Maleic anhydride	0.25	1
C	Manganese and compounds (as Mn)	---	5
	Marble	Inert dust	
S	Mercury	---	0.1
S	Mercury (organic compounds)	---	0.01
	Mesityl oxide	25	100
	Methane	Inert gas	

TABLE 4			
Substance		MAC	
		ppm	mg/m^3
	Methanethiol	See Methyl mercaptan	
	Methoxychlor	---	15
	2-Methoxyethanol	See Methyl cellosolve	
	Methyl acetate	200	610
	Methyl acetylene (propyne)	1,000	1,650
	Methyl acetylene-propadiene mixture (MAPP)	1,000	1,800
S	Methyl acrylate	10	35
	Methylal (dimethoxymethane)	1,000	3,100
	Methyl alcohol (methanol)	200	260
	Methylamine	10	12
	Methyl amyl alcohol	See Methyl isobutyl carbinol	
	Methyl (n-amyl) ketone (2-heptanone)	100	465
S,C	Methyl bromide	20	80
	Methyl butyl ketone	See 2-Hexanone	
S	Methyl cellosolve	25	80
S	Methyl cellosolve acetate	25	120
C	Methyl chloride	100	210
	Methyl chloroform	350	1,900
	Methylcyclohexane	500	2,000
	Methylcyclohexanol	100	470
S	o-Methylcyclohexanone	100	460
	Methylenedianiline (MDA)	(See R 325.51651 et seq.*)	
	Methyl ethyl ketone (MEK)	See 2-Butanone	
	Methyl formate	100	250
S	Methyl iodide	5	28
	Methyl isoanyl ketone	100	475
S	Methyl isobutyl carbinol	25	100
	Methyl isobutyl ketone	See Hexone	
S	Methyl isocyanate	0.02	0.05
	Methyl mercaptan	0.5	1
	Methyl methacrylate	100	410
	Methyl propyl ketone	See 2-Pentanone	
C	Methyl silicate	5	30
C	alpha-Methyl styrene	100	480

TABLE 4			
Substance		**MAC**	
		ppm	**mg/m^3**
C	Methylene bisphenyl isocyanate (MDI)	0.02	0.2
	Methylene chloride (dichloromethane) (See R 325.51651 et seq.*)		
	Molybdenum		
	• (soluble compounds)	---	5
	• (insoluble compounds)	---	15
S	Monomethyl aniline	2	9
S,C	Monomethyl hydrazine	0.2	0.35
S	Morpholine	20	70
A, C, and S See R 325.2412.			
***Caution--these rules contain extensive requirements for exposure to these substances.**			

R 325.2417 Maximum allowable concentrations for substances N to P.
Rule 17. Table 5 reads as follows:

TABLE 5			
Substance		MAC	
		ppm	mg/m³
	Naphtha (coal tar)	100	400
	Naphtha (petroleum) (MAC will be based on aromatic hydrocarbons in mixture)		
	Naphthalene	10	50
A	beta-Naphthylamine	---	
	Neon	Inert gas	
	Nickel carbonyl	0.001	0.007
	Nickel, metal and soluble compounds (as Ni)	---	1
S	Nicotine	---	0.5
	Nitric acid	2	5
	Nitric oxide	25	30
S	p-Nitroaniline	1	6
S	Nitrobenzene	1	5
S	p-Nitrochlorobenzene	---	1
	Nitroethane	100	310
	Nitrogen	Inert gas	
	Nitrogen dioxide	5	9
	Nitrogen trifluoride	10	29
S	Nitroglycerin	0.2	2
	Nitromethane	100	250
	1-Nitropropane	25	90
	2-Nitropropane	25	90
S,A	N-Nitrosodimethylamine (dimethylnitrosomine)	---	---
S	Nitrotoluene	5	30
	Nitrotrichloromethane See Chloropicrin		
	Nitrous oxide	Inert gas	
S	Octachloronaphthalene	---	0.1
	Octane	400	1,900
	Oil mist, particulate	---	5
	Oil mist, vapor (MAC will be based on aromatic hydrocarbons in mixture)		
	Osmium tetroxide	---	0.002
	Oxalic acid	---	1
	Oxygen difluoride	0.05	0.1
	Ozone	0.1	0.2

TABLE 5			
Substance		MAC	
		ppm	mg/m^3
S	Paraquat	---	0.5
S	Parathion	---	0.1
	Pentaborane	0.005	0.01
S	Pentachloronaphthalene	---	0.5
S	Pentachlorophenol	---	0.5
	Pentaerythritol	Inert particulate	
	Pentane	500	1,500
	2-Pentanone	200	700
	Perchloroethylene	100	670
	Perchloromethyl mercaptan	0.1	0.8
	Perchloryl fluoride	3	13.5
	Petroleum distillates (naphtha) (MAC will be based on aromatic hydrocarbons in mixture)		
S	Phenol	5	19
S	p-Phenylene diamine	---	0.1
	Phenyl ether (vapor)	1	7
	Phenyl ether-biphenyl mixture (vapor)	1	7
	Phenylethylene See Styrene		
	Phenyl glycidyl ether (PGE)	10	60
S	Phenylhydrazine	5	22
S	Phosdrin (Mevinphos®)	---	0.1
	Phosgene (carbonyl chloride)	0.1	0.4
	Phosphine	0.3	0.4
	Phosphoric acid	---	1
	Phosphorus (yellow)	---	0.1
	Phosphorus pentachloride	---	1
	Phosphorus pentasulfide	---	1
	Phosphorus trichloride	0.5	3
	Phthalic anhydride	2	12
S	Picric acid	---	0.1
	Pival® (2-pivalyl-1,3-indandione)	---	0.1
	Plaster of Paris	Inert dust	
	Platinim, soluble salts (as Pt)	---	0.002
	Polytetrafluoroethylene decomposition products See Teflon® decomposition products		
	Propane	Inert gas	

TABLE 5			
Substance		MAC	
		ppm	mg/m^3
S	Propargyl alcohol	1	---
A	beta-Propiolactone	---	---
	n-Propyl acetate	200	840
	Propyl alcohol	200	500
	n-Propyl nitrate	25	110
	Propylene dichloride	75	350
S	Propylene imine	2	5
	Propylene oxide	100	240
	Propyne	See Methyl acetylene	
	Pyrethrum	---	5
	Pyridine	5	15
A, C, and S See R 325.2412			

R 325.2418 Maximum allowable concentrations for substances Q to Z.
Rule 18. Table 6 reads as follows:

TABLE 6			
Substance		**MAC**	
		ppm	**mg/m³**
	Quinone	0.1	0.4
S	RDX	---	1.5
	Rhodium, metal fume, dusts, and insoluble compounds (as Rh)	---	0.1
	Rhodium, soluble compounds (as Rh)	---	0.001
	Ronnel	---	10
	Rotenone (commercial)	---	5
	Rouge	Inert dust	
	Selenium compounds (as Se)	---	0.2
	Selenium hexafluoride	0.05	0.4
	Silicon carbide	Inert dust	
	Silver, metal and soluble compounds	---	0.01
S	Sodium fluoroacetate (1080)	---	0.05
	Sodium hydroxide	---	2
	Starch	Inert dust	
	Stibine	0.1	0.5
	Stoddard solvent	200	1,150
	Strychnine	---	0.15
C	Styrene monomer (phenylethylene)	100	420
	Sucrose	Inert dust	
	Sulfur dioxide	5	13
	Sulfur hexafluoride	1,000	6,000
	Sulfuric acid	---	1
	Sulfur monochloride	1	6
	Sulfur pentafluoride	0.025	0.25
	Sulfuryl fluoride	5	20
	Systox See Demeton® 2,4,5T	---	10
	Tantalum	---	5
S	TEDP	---	0.2
	Teflon® decomposition products (maintain minimal air concentration)		
	Tellurium	---	0.1
	Tellurium hexafluoride	0.02	0.2
S	TEPP	---	0.05
C	Terphenyls	1	9

TABLE 6			
Substance		MAC	
		ppm	mg/m^3
	1,1,1,2-Tetrachloro-2,2-difluoroethane	500	4,170
	1,1,2,2-Tetrachloro-1,2-difluoroethane	500	4,170
S	1,1,2,2-Tetrachloroethane	5	35
	Tetrachloroethylene See Perchloroethylene		
	Tetrachloromethane See Carbon tetrachloride		
S	Tetrachloronaphthalene	---	2
S	Tetraethyl lead (as Pb)	---	0.075
	Tetrahydrofuran	200	590
S	Tetramethyl lead (THL) (as Pb)	---	0.150
S	Tetramethyl succinonitrile	0.5	3
	Tetranitromethane	1	8
S	Tetryl (2,4,6-trinitrophenylmethylnitramine)	---	1.5
S	Thallium, soluble compounds (as T1)	---	0.1
	Thiram	---	5
	Tin		
	• (inorganic compounds, except SnH_4 and SnO_2)	---	2
	• (organic compounds)	---	0.1
	Tin oxide	Inert particulate	
	Titanium dioxide	Inert particulate	
	Toluene (toluol)	200	750
C	Toluene-2,4-diisocyanate	0.02	0.14
S	o-Toluidine	5	22
	Toxaphene See Chlorinated camphene		
	Tributyl phosphate	---	5
	1,1,1-Trichloroethane See Methyl chloroform		
S	1,1,2-Trichloroethane	10	45
	Trichloroethylene	100	535
	Trichloromethane See Chloroform		
S	Trichloronaphthalene	---	5
	1,2,3-Trichloropropane	50	300
	1,1,2-Trichloro-1,2,2-trifluoroethane	1,000	7,600
	Triethylamine	25	100
	Trifluoromonobromomethane	1,000	6,100
	Trimethyl benzene	25	120

TABLE 6			
Substance		**MAC**	
		ppm	**mg/m^3**
	2,4,6-Trinitrophenol	See Picric acid	
	2,4,6-Trinitrophenylmethylnitramine	See Tetryl	
S	Trinitrotoluene	---	1.5
	Triorthocresyl phosphate	---	0.1
	Triphenyl phosphate	---	3
	Tungsten and compounds (as W)		
	Insoluble	---	5
	Soluble	---	1
	Turpentine	100	560
	Uranium (natural) soluble & insoluble compounds (as U)	---	0.2
C	Vanadium (V_2O_5 dust)	---	0.5
	(V_2O_5 fume)	---	0.1
	Vinyl benzene	See Styrene	
C	Vinyl chloride	(See R 325.51401 et seq.*)	
	Vinyl cyanide	See Acrylonitrile	
	Vinyl toluene	100	480
	Warfarin	---	0.1
	Xylene (xylol)	100	435
S	Xylidine	5	25
	Yttrium	---	1
	Zinc chloride fume	---	1
	Zinc oxide fume	---	5
	Zirconium compounds (as Zr)	---	5
A, C, and S See R 325.2412.			
***Caution--these rules contain extensive requirements for exposure to these substances.**			

R 325.2419 Maximum allowable concentrations for mineral dusts.
Rule 19. Table 7 reads as follows:

TABLE 7 MINERAL DUSTS	
Substance	**MAC (MPPCF)**
Silica	
• Crystalline *	MAC = $\frac{250}{\% SiO_2+5}$
• Quartz	
• Cristobalite	MAC same as quartz
• Amorphous, including natural diatomaceous earth	20
Silicates (less than 1% crystalline silica)	
• Asbestos, all types	(See asbestos in construction R 325.51301 et seq.)
• Mica	20
• Portland cement	50
• Soapstone	20
• Talc (non-asbestiform)	20
• Talc (fibrous)	(See asbestos in construction R 325.51301 et seq.)
• Tremolite	(See asbestos in construction R 325.51301 et seq.)
Graphite (natural)	15
Inert or nuisance particles **	50 of total dust less than 1% SiO_2 (or 15 mg/m^3, whichever is the smaller)
* The percentage of crystalline silica, SiO_2, in the formula is the amount determined from airborne samples.	
** The following are some examples of inert or nuisance particulates when toxic impurities are not present; e.g. quartz less than 1%.	

Alundum ($A1_20_3$)	Gypsum	Rouge
Calcium carbonate	Limestone	Silicon carbide
Cellulose	Magnesite	Starch
Corundum ($A1_20_3$)	Marble	Sucrose
Emery	Pentaerythritol	Tin oxide
Glycerine mist	Plaster of Paris	Titanium dioxide
Graphite (synthetic)	Portland cement	Vegetable oil mists (except castor, cashew nut, or similar irritant oils)

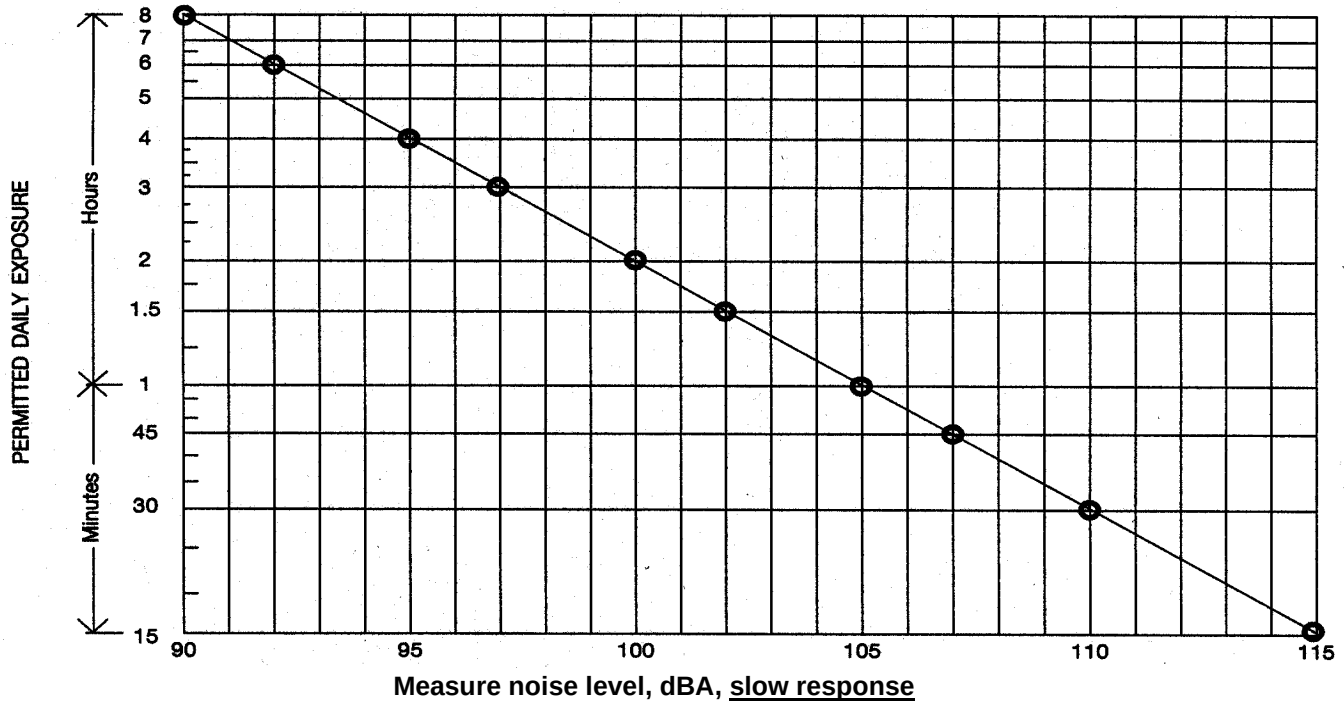
R 325.2421 Continuous, broad-band noise.

Rule 21. (1) The following are maximum permissible levels of continuous, broad-band noise based on daily exposure time in places of employment:

PERMITTED DAILY EXPOSURE TIME, HOURS	MAXIMUM PERMISSIBLE NOISE LEVEL, DBA, SLOW RESPONSE
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
3/4	107
1/2	110
1/4	115

(2) If a noise level is between 2 listed maximum permissible noise levels in subrule (1) of this rule, then chart A shall be used to determine the permitted daily exposure time. In applying the chart, measured noise levels will be taken to the nearest whole number.

Chart A
NOISE EXPOSURE CHART



(3) If airborne noise levels and exposure times exceed the values in subrule (1) or (2) of this rule, then noise control measures or reduction of exposure time shall be provided or auditory protective equipment shall be provided by the employer and used by the employee.

(4) If the daily noise exposure is composed of 2 or more periods of noise exposure of different levels, each period of noise exposure shall be determined by dividing the actual exposure time in minutes at the measured noise level by the permitted exposure time in minutes at that measured noise level pursuant to subrule (1) of this rule. The noise exposure for the periods shall be totaled. The total noise exposure shall not exceed the unit number 1. If an actual exposure time is measured at a noise level less than 90 dBA, then that period of noise exposure shall be unlimited or infinity (∞).

(5) The following are examples of the use of the formula in accordance with subrule (4) of this rule:

(6) A sound level meter shall be used with the "A" network, slow response to compare airborne continuous noise levels with the maximum permissible noise levels.

$$N = \frac{t_1}{T_1} + \frac{t_2}{T_2} + \frac{t_3}{T_3} + \quad N = \text{total noise exposure.}$$

t_1, t_2, t_3 = actual exposure times in minutes, at different noise levels.

T_1, T_2, T_3 = permitted exposure times in minutes, at different noise levels.

Example #1
5 Hr. = 300 Min. Exposure @ 83 dBA Permissible Time = ∞
2 Hr. = 120 Min. Exposure @ 95 dBA Permissible Time = 4 Hr. = 240 Min.
1 Hr. = 60 Min. Exposure @ 97 dBA Permissible Time = 3 Hr. = 180 Min.
$\frac{t_1}{T_1} + \frac{t_2}{T_2} + \frac{t_3}{T_3} = N: \frac{300}{\infty} + \frac{120}{240} + \frac{60}{180} = 0 + .5 + .33 = .83$
Since N does not exceed 1 the exposure is less than the permissible limit.

Example #2
1 Hr. = 60 Min. Exposure @ 87 dBA Permissible Time = ∞
3 Hr. = 180 Min. Exposure @ 90 dBA Permissible Time = 8 Hr. = 480 Min.
3 Hr. = 180 Min. Exposure @ 95 dBA Permissible Time = 4 Hr. = 240 Min.
1 Hr. = 60 Min. Exposure @ 100 dBA Permissible Time = 2 Hr. = 120 Min.
$\frac{t_1}{T_1} + \frac{t_2}{T_2} + \frac{t_3}{T_3} = N: \frac{60}{\infty} + \frac{180}{480} + \frac{180}{240} + \frac{60}{120} = 0 + .38 + .75 + .5 = 1.63$
Since N is greater than $\underline{1}$ the exposure exceeds the permissible limit.

R 325.2422 Impulse noise.
Rule 22. The maximum permissible level for impulse noise shall be 140 dB as measured with a cathode-ray oscilloscope system or with other equipment such as the impact noise meter capable of indicating the maximum-instantaneous peak noise level.

R 325.2424 Illumination.
Rule 24. The level of illumination shall be adequate as determined by the director for the performance of the task.

R 325.2429 Control methods for enclosures and controlled processes.
Rule 29. (1) An enclosure shall be provided at a stationary source unless the omission of the enclosure does not impair control.

(2) A controlled process shall be designed and regulated to prevent the creation of a hazard to health or life. If the director determines that there may be an immediate danger to health or life due to the failure of the process design or regulatory device, then he or she may require that the process fail-safe in such manner to avert the hazard.

R 325.2430 Rescinded.

R 325.2431 Inert gas or foam systems.
Rule 31. If an inert gas or foam system is provided in an occupied area for the prevention or extinguishment of fire or explosion, then the affected area shall be conspicuously posted to call attention to the potential creation of a non-respirable atmosphere. The actuating of an audible and visible alarm before the system is activated shall be provided. The system shall incorporate a sufficient time-delay to permit the egress of persons within the affected area. After the activation of the system, an audible and visible warning that a non-respirable atmosphere has been created within the area shall continue until the non-respirable atmosphere has been purged or diluted with air to safe breathing levels.

R 325.2434 Supply ventilation systems.
Rule 34. (1) A supply ventilation system shall be provided to ensure a flow of air into the working environment to replace the volume of air exhausted.

(2) A mechanical air supply system shall be provided if its absence will result in building negative pressures sufficient to cause back-drafting of vents from fuel-fired equipment or ineffective control.

(3) Mechanical air supply volumes shall be heated to maintain a minimum air temperature of 65 degrees Fahrenheit measured at the point of air discharge to the space. Exceptions to this requirement are refrigerated storage rooms, special process rooms, and similar locations where lower air temperatures are essential to the preservation of the product or service, or, if in the opinion of the director, a lower air temperature will not be harmful to the health of the persons affected.

R 325.2435 Direct-fired air heaters.
Rule 35. (1) A direct-fired air heater, wherein combustion products are released in the supply air stream, may be installed in buildings of industrial occupancy, garages, laundries, and commercial kitchens. They shall not be installed in offices, schools, hospitals, and places of public assembly.

(2) A direct-fired air heater shall have an inlet duct connected directly to the out-of-doors. Room air shall not be circulated across the burner.

(3) A direct-fired air heater shall deliver air which contains not more than 10 ppm of carbon monoxide and is free from odors of combustion products. Permissible concentrations of other contaminants in the delivered air may be established by the director pursuant to their MAC and the degree of exposure to a person.

(4) The air volume supplied to the building by a direct-fired air heater shall not exceed 110% of the total air volume exhausted. The director may require interlocking of a heater control system with an exhaust ventilation system if necessary to ensure that the exhaust systems are operating.

(5) A direct-fired air heater shall have both of the following:

(a) A pre-ignition purge of fresh air.

(b) A positive fuel supply closure in the event of fuel supply failure, ignition failure, flame failure, power failure or interruption, or air flow reduction below 50% of its rated capacity.

R 325.2436 Exhaust ventilation systems.
Rule 36. The minimum rate of exhaust ventilation for places of manufacturing, processing, assembling, maintenance and repair, or storage of material shall be 1 cubic foot of air per minute per square foot of floor area. This amount of exhaust ventilation may be provided by local exhaust, general exhaust, or both. The director may permit a variance if contaminant control can be accomplished at a lesser rate of ventilation.

R 325.2437 Local exhaust ventilation.
Rule 37. (1) Local exhaust ventilation shall be provided at all stationary sources. The director may allow a variance from this requirement if control is accomplished with general ventilation.

(2) If a local exhaust system is used, then the exhaust air volume shall create an in-draft air volume at an enclosure, hood, duct, or fan sufficient to control the contaminant.

(3) A local exhaust system shall be designed to capture and control the contaminant. Distribution of exhaust air between various exhaust points may be accomplished by balanced duct design. If balancing gates are used, then they shall be locked permanently in place after final adjustment.

(4) The design and construction of a local exhaust ventilation system shall be adequate for the contaminant and conditions of service. A listing of practical ventilation texts and references shall be available from the director upon request. Technical information and experience regarding specific contaminants and control measures may be obtained from the director.

R 325.2438 General ventilation system.

Rule 38. A general ventilation system may be used for contaminant control. The ventilation air volume shall be sufficient to dilute the airborne contaminant to levels not exceeding the MAC.

R 325.2439 Exhaust system discharge locations.

Rule 39. The discharge locations of local exhaust or general exhaust systems shall not permit exhausted air to re-enter a workroom or other buildings directly, or indirectly, through air supply systems without substantial dilution.

R 325.2440 Recirculation of air from exhaust systems.

Rule 40. (1) The recirculation of air containing a contaminant whose MAC is at least 1000 ppm, 15 mg/m^3, or 50 mppcf, shall be permitted if the exhaust ventilation system is equipped with an air cleaning device capable of reducing the contaminant concentrations to 10% or less of their MAC in the returned air.

(2) The director may allow the recirculation of air containing a contaminant whose MAC is less than 1000 ppm, 15 mg/m^3 or 50 mppcf, if the toxicity of the contaminant and the degree of air cleaning to be achieved create an environment which will not impair the health of the workers, and if the contaminant concentrations in the returned air do not exceed 10% of its MAC.

(3) A recirculation system shall include an alternate air duct connection to discharge the returned air outside of the building if necessary to protect the workers' health.

R 325.2441 Air pollution control.

Rule 41. A local exhaust and general exhaust ventilation system shall comply with rules adopted by the Michigan Department of Environmental Quality, being R 336.1101 to R 336.1910.

R 325.2442 Respiratory protective equipment; selection and use.

Rule 42. (1) Respiratory protective equipment for the safeguarding of the workers' health shall be provided by the employer if other methods do not control the contaminants.

(2) Respiratory protective equipment for the safeguarding of a worker's health may be used in place of other control measures in intermittent or temporary work situations.

(3) Respiratory protective equipment shall be of a type approved for protection against the contaminant and degree of exposure to be encountered. A listing of approved types of respiratory protective equipment shall be available from the director.

(4) Responsibility for equipment selection, issuance, use, training, and maintenance shall be vested in a qualified individual who shall have sufficient knowledge of the subject.

(5) A worker shall be trained in the use of the equipment and shall have an opportunity to become familiar with it, have it fitted properly, and test its facepiece to face seal. If a worker needs to wear corrective lenses, then the facepiece and lenses shall be fitted by a qualified individual.

(6) A worker shall use the equipment in accordance with instructions, shall report any malfunctioning of the equipment to the person responsible, and shall guard the equipment against damage.

(7) If the equipment is to be used in an atmosphere immediately dangerous to life or health, then the worker shall use it in normal air for a reasonable familiarity period.

(8) Emergency equipment shall be readily accessible at all times and its location shall be clearly marked.

R 325.2442a Respiratory protective equipment; maintenance.

Rule 42a. (1) Respiratory protective equipment shall be maintained in clean and effective condition.

(2) Routinely used equipment shall be cleaned, inspected, and sanitized as frequently as necessary to ensure that proper protection is provided for the wearer.

(3) Emergency equipment that is not routinely used shall be inspected, cleaned, and sanitized after each use and inspected at least monthly to ensure that it is in effective working condition. A record shall be kept of inspection dates and findings.

(4) Equipment inspection shall include a check of the tightness of connections and the proper functioning of all parts.

(5) Replacement or repairs shall be made by trained persons with parts designated for the specific equipment. Reducing valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

(6) Equipment shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.

R 325.2442b Respiratory protective equipment; types for certain hazards.
Rule 42b. The following equipment shall be used in any of the following hazards:

HAZARD	REQUIRED EQUIPMENT
Oxygen deficiency	• Hose mask with blower • Self-contained breathing apparatus
Gas vapor, particulate contaminants	
Atmospheres immediately dangerous to life or health	• Hose mask with blower • Self-contained breathing apparatus • Self-rescue mouthpiece respirator (for escape only)
Atmospheres not immediately dangerous to life or health	• Air-line respirator • Air-line abrasive blasting respirator (for escape only) • Gas mask with canister or with canister and filter • Hose mask with blower • Respirator with chemical cartridge or filter or both

R 325.2442c Respiratory protective equipment; supplies and components.
Rule 42c. (1) Compressed or liquid oxygen used with respiratory protective equipment shall be of high purity. Compressed oxygen shall not be used in supplied-air respirators or in open-circuit self-contained breathing apparatus that have previously used compressed air.

(2) Air may be supplied to equipment from cylinders or air compressors with proper pressure regulation and control. Air shall contain 19-23% oxygen and not more than 20 ppm carbon monoxide and 5 mg/m^3 oil mist.

(3) A compressor or compressor air intake shall be situated so as to prevent entry of contaminants into the system in amounts which may be injurious to the health of an exposed person.

(4) An oil lubricated compressor shall incorporate suitable inline air purifying sorbents and filters, temperature regulators, and high-temperature cut-off to assure breathing air quality. An oil lubricated compressor shall not use vegetable oil lubricants.

(5) An air-line coupling or connector shall be incompatible with outlets for other gas systems to prevent connection with non-respirable gases or oxygen.

(6) A self-contained breathing apparatus and universal type gas mask shall incorporate an audible or visible alarm or window to indicate impending failure of the device to provide respirable air. It is recommended that warning be given when 20-25% of rated service time remains.

R 325.2443 Variances.
Rule 43. Variances as provided in R 325.2436 and R 325.2437(1) may be granted by the director upon written request. Variances granted by the director shall be in writing and shall consider the potential health hazard and the control measures to be employed.

R 325.2444 Hearing procedures.

Rule 44. (1) The director shall serve a written notice upon an employer alleged to be in violation of these rules. The notice shall describe the alleged violation and set a date, time, and place for a hearing to determine whether a violation exists. The notice shall be delivered at least 15 days before the hearing date.

(2) Evidence and testimony may be introduced at the hearing and all interested parties shall be given the full opportunity to present evidence and to cross-examine witnesses.

(3) If a violation is found to exist, the director shall issue an order directing the person, firm, or corporation to correct the violation before a specified correction date. The correction date shall be established with consideration to the health hazard involved and the difficulty of eliminating the violation.

(4) At the time of the hearing, or within 30 days after receipt of an order from the director, the person, firm, or corporation may request an extension of the correction date. The director may grant an extension of the correction date, with consideration to the health hazard and the difficulty of correction, for a reasonable time if it is shown that the violation can and will be corrected before the extended correction date.

(5) If a violation is not eliminated within the time specified, then the director shall issue a final order directing the person, firm, or corporation to cease the operation of the source that is in violation.

R 325.2445 Emergency procedure.

Rule 45. If the director knows there is an immediate and serious hazard from exposure to a contaminant and he or she believes that a delay of 15 days would be prejudicial to the health or life of exposed persons, then the director shall notify the employer by written notice to discontinue immediately the exposure to the contaminant. Within 15 days the director shall provide the employer the opportunity to be heard and to present any proof that exposure to the contaminant does not constitute a danger to the health or life of the exposed persons.

R 325.2446 Appeals.

Rule 46. An employer aggrieved by a decision of the director may appeal the decision pursuant to sections 101 to 106 of 1969 PA 306, MCL 24.301 to 24.306.

R 325.2447 Amendments; revisions.

Rule 47. (1) If the director has knowledge that rule revision is required for the prevention of occupational disease or significant physiological disturbance, or after consideration of a request by any person, he may proceed to amend these rules in accordance with the administrative procedures act.

(2) If the director believes that there is a significant hazard to the health of exposed persons, he may proceed to amend these rules and provide for the immediate effect of the amendment in accordance with the administrative procedures act.

R 325.2448 Rescission.

Rule 48. The rules entitled "Basic Guides for Control of Exposure to Atmospheric Contaminants in Places of Employment," being R 325.1351 to R 325.1355 of the Michigan Administrative Code and appearing on pages 2592 to 2599 of the 1962 Annual Supplement to the Code, are rescinded.

INFORMATIONAL APPENDIX

The following Michigan Occupational Safety and Health (MIOSHA) standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

STATEMENT FROM TABLE	REFERS TO THE FOLLOWING MIOSHA OCCUPATIONAL HEALTH (OH) STANDARD	RULE NUMBERS
(See R 325.51401 et seq.*)	GI Part 302 Vinyl Chloride	R 325.51401 to R 325.51414
(See R 325.51151 et seq.*)	GI & CS Part 304 Ethylene Oxide	R 325.51151 to R 325.51177
(See R 325.51451 et seq.*)	GI & CS Part 306 Formaldehyde	R 325.51451 to R 325.51477
(See R 325.51501 et seq.*)	GI & CS Part 307 Acrylonitrile	R 325.51501 to R 325.51527
(See R 325.51851 et seq.*)	GI & CS Part 309 Cadmium	R 325.51851 to R 325.51886
(See R 325.77101 et seq.*)	GI & CS Part 311 Benzene	R 325.77101 to R 325.77115
(See R 325.50091 et seq.*)	GI & CS Part 312 1,3-Butadiene	R 325.50091 to R 325.50093
(See R 325.51651 et seq.*)	GI & CS Part 313 Methylene Chloride	R 325.51651 to R 325.51653
(See R 325.50101 et seq.*)	GI & CS Part 314 Coke Oven Emissions	R 325.50100 to R 325.50136
(See asbestos in construction R 325.51301 et seq.)	CS Part 602 Asbestos for Construction	R 325.51301 to R 325.51312

Michigan Occupational Safety and Health Administration
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For technical questions of this standard – Ph: 517-284-7750 (GISHD) or 517-284-7720 (CETD)
To order copies of this standard – Ph: 517-284-7740