

# Cartridge Selection Guide



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# PAPR Cartridge Selection Guide

## Introduction

This guide contains a listing of approximately 800 hazardous chemicals found in the work environment. For each chemical, occupational exposure limits are presented along with the type of filter/cartridge, if appropriate, that is recommended for protection against that chemical. Airline configuration is indicated in those instances where filters/cartridges are inappropriate.

These recommendations are based on laboratory tests, field tests and information from related literature. This listing is designed as a guide to the selection of the proper respirator. It is the user's responsibility to evaluate the substance's physical properties such as eye irritation, skin absorption, environmental conditions such as volatility, concentration of the chemical compound and ambient temperature/relative humidity.

Bullard PAPRs may not be used for respiratory protection in any atmosphere that is immediately dangerous to life or health (IDLH)

or in atmospheres containing less than 19.5% oxygen (oxygen deficient atmospheres). Do not use Bullard PAPRs for fire fighting.

A complete respirator program must be implemented by the user as specified in 29 CFR 1910.134 (Occupational Safety and Health Administration regulations). As a minimum, a respiratory protection program should include regular training, periodic monitoring of airborne concentration levels of contaminants, medical evaluation, selection and use of respirators, fit-testing of respirators, breathing air quality, maintenance, inspection, cleaning and storage. The selection of the actual respirator to be used from among the acceptable types and classes will depend on the particular use situation and should only be made by a person who is knowledgeable in the area of respiratory protection.



# PAPR Cartridge Selection Guide

## How to Use the Guide

Chemicals are listed alphabetically and by CAS number. The listing shows physical data such as normal state, boiling point, melting point, flash point, etc. In addition, the OSHA Permissible Exposure Limit and the American Conference of Governmental Industrial Hygienist's Threshold Limit Values are shown.

For each chemical listed, an air-purifying filter or cartridge type for the PAPR is given, or the notation "Use airline" is indicated. See the following chart to find the part numbers for each type of filter or cartridge, as well as the NIOSH color code.

If the chemical in question cannot be found on the list, e-mail the chemical name and any other available information to [resptech@bullard.com](mailto:resptech@bullard.com). You may also fax this information to Bullard at (859) 234-8987.

To determine the maximum use concentration of the cartridges/filters listed, when used with any headpiece, follow these steps:

1. Find the APF of the type of headpiece that will be used. See the chart below.

Headpiece	APF
Loose Fitting Facepiece	25
Full Facepiece	50
Hood	1000

2. Multiply the APF by the PEL or TLV for the chemical in question. For example: Trichloroethylene – Use PA30VAGHE cartridge. PEL = 100 ppm. IDLH = 1,000 ppm. Selected Tychem Hood. APF for Tychem Hood = 1000.
3. Multiply APF of 1000 for Tychem Hood times PEL of 100 ppm, equals 100,000 ppm.
4. Compare result to IDLH concentration. The Maximum Use Concentration will equal whichever is lower, which in this case is 1,000 ppm. (Cannot exceed IDLH concentration).



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## NIOSH Color Code for Filters and Cartridges

Part Number	Type	NIOSH Color Code
PA3HE	HE (High Efficiency)	Purple
PA3OVAGHE	OV/AG/HE (Organic Vapors/Acid Gas/ High Efficiency)	Yellow/Purple
PA3NBC	AG/AM/MA/FM/HE (Acid Gas/Ammonia/Methlyamine/Formaldehyde/ High Efficiency)	Olive/Purple



## PAPR Cartridge Selection Guide

### Abbreviations

**IDLH** = Immediately dangerous to Life or Health. This means a concentration level of a given substance which poses an immediate threat to life or health. If the concentration is above the IDLH, only highly reliable Self-Contained Breathing Apparatus is allowed.

**Mg/m<sup>3</sup>** = Milligrams per cubic meter of air.

**PEL** = OSHA Permissible Exposure Limit. Defined as the time-weighted average concentration for a normal 8-hour workday and 40-hour work-week, to which nearly all workers may be repeatedly exposed, day after day, without adverse affect.

**ppm** = parts per million parts of air.

**Skin** = Listed substances followed by "skin" refer to the potential significant contribution to the overall exposure by the cutaneous route, including mucous membranes and the eyes, either by contact with vapors or by direct skin contact. Measures to prevent significant cutaneous absorption may be required.

**TLV** = Threshold limit value (American Conference of Governmental Industrial Hygienist). See definition of PEL.

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### ⚠ WARNING

1. This device does not supply oxygen.
2. Use only in adequately ventilated areas containing at least 19.5% oxygen.
3. Do not use when concentrations of contaminants are immediately dangerous to life or health (IDLH).
4. Do not use these respirators for respiratory protection against abrasive blasting using silica sand as the abrasive.
5. Do not use in circumstances where the airborne concentration level of contaminant exceeds maximum use concentration for this type of respirator as established by regulatory standards.
6. Leave area immediately if:
  - a. Breathing becomes difficult
  - b. Dizziness or other distress occurs.
  - c. You taste or smell the contaminant.
  - d. Unit becomes damaged.
7. Do not use any full facepiece when conditions prevent a good facial seal, such as facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function.
8. Use strictly in accordance with instructions, labels and limitations pertaining to this device.
9. Never alter or modify this device. Use only NIOSH approved Bullard components and replacement parts for this respirator.

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
ALLYL GLYCIDYL ETHER (AGE)	ppm	C10	1	50	no	yes	PA30VAGHE, SAR	
ACETALDEHYDE	ppm	200	C 25	10000	yes	no	SAR	
ACETIC ACID	ppm	10	10	1000	yes	no	PA30VAGHE	
ACETIC ANHYDRIDE	ppm	5	5	1000	yes	no	PA30VAGHE	
ACETONE	ppm	1000	500	20000	yes	no	PA30VAGHE	
ACETONITRILE	ppm	40	20	4000	yes	no	PA30VAGHE	
2-ACETYLAMINOFLUORENE	mg/m3	CA	CA				SAR	
ACETYLENE	ppm				no	no	SAR	
ACETYLENE TETRABROMIDE	ppm	1	1	8	yes	yes	PA30VAGHE, SAR	
o-ACETYLSALICYLIC ACID	mg/m3		5		no	no		PA3HE
ACROLEIN	ppm	0.1	C0.1	2	no	no	PA30VAGHE, SAR	
ACRYLALDEHYDE	ppm	0.1	C0.1	2	no	no	SAR	
ACRYLAMIDE	mg/m3	0.3	0.03		yes	yes	PA30VAGHE	
ACRYLIC ACID	ppm		2		no	no	PA30VAGHE	
ACRYLONITRILE	ppm	2	2		no	yes	SAR	
ALDRIN (ISO)	mg/m3	0.25	0.25		no	yes	PA30VAGHE, SAR	
ALLYL ALCOHOL	ppm	2	0.5	20	no	yes	PA30VAGHE	
ALLYL CHLORIDE	ppm	1	1	250	yes	no	PA30VAGHE	
ALLYL GLYCIDYL ETHER	ppm	C10	1	50	no	yes	PA30VAGHE, SAR	
ALPHA-CHLOROTOLUENE (BENZYL CHLORIDE)	ppm	1	1	10	no	no	PA30VAGHE, PA3NBC	
ALUMINUM METAL	mg/m3	R 5	10		no	no		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
ALUMINUM OXIDE	mg/m3	R 5	10		no	no		PA3HE
ALUMINIUM SALTS, SOLUBLE	mg/m3		2		no	no		PA3HE
4-AMINOBIHENYL		CA	CA				SAR	
AMINODIMETHYLBENZENE	ppm	5	0.5	50	no	yes	PA3OVAGHE	
2-AMINOETHANOL	ppm	3	3	30	yes	no	PA3OVAGHE	
2-AMINOPYRIDINE	mg/m3	0.5	0.5	5	no	no	PA3OVAGHE, SAR	
AMMONIA	ppm	50	25	300	yes	no	PA3NBC	
AMMONIUM CHLORIDE, FUME	mg/m3		10		no	no	PA3NBC	
AMMONIUM SULFAMATE	mg/m3	R 5	10	1500	no	no		PA3HE
n-AMYL ACETATE	ppm	100	50	1000	no	no	PA3OVAGHE	
sec-AMYL ACETATE	ppm	125	50	1000	no	no	PA3OVAGHE	
ANILINE	ppm	5	2		no	yes	PA3OVAGHE	
ANISIDINES, O- AND P-ISOMERS	ppm	0.5	0.5	50	no	yes	PA3OVAGHE	
ANTIMONY AND COMPOUNDS (AS SB)	mg/m3	0.5	0.5	50	no	no		PA3HE
ARGON	ppm				no	no	SAR	
ARSENIC & COMPOUNDS EXCEPT ARSINE	mg/m3	0.01	0.01		no	no		PA3HE
ARSINE	ppm	0.05	0.05		no	no	SAR	
ASBESTOS	fibre/ml	0.1	0.1		no	no		PA3HE
ASPHALT, PETROLEUM FUMES	mg/m3		0.5		no	no	PA3OVAGHE	
ASPRIN	mg/m3		5		no	no		PA3HE
ATRAZINE (ISO)	mg/m3		5		no	no		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
AZINPHOS-METHYL (ISO)	mg/m3	0.2	0.2	10	no	yes	PA30VAGHE	
AZIRIDINE	ppm	CA	0.5		no	yes	SAR	
BCME [Bis (chloromethyl) ETHER]	ppm	CA	0.001		no	no	PA30VAGHE, SAR	
BGE	ppm	50	25	250			PA30VAGHE, SAR	
γ-BHC (ISO)	mg/m3	0.5	0.5	50			PA30VAGHE	
BARIUM COMPOUNDS SOLUBLE (AS BA)	mg/m3	0.5	0.5	250	no	no		PA3HE
BENOMYL (ISO)	mg/m3	R 5	10		no	no	PA30VAGHE	
BENZENE	ppm	1.00	0.50	2000	no	yes	PA30VAGHE	
BENZENETHIOL	ppm				no	no	PA30VAGHE	
BENZENE-1,2,4-								
TRICARBOXYLIC ACID 1,2-ANHYDRIDE	mg/m3		0.005		no	no	PA30VAGHE	
BENZIDINE		CA	CA				SAR	
p-BENZOQUINONE	ppm	0.1	0.1	100	yes	yes	PA30VAGHE	
BENZOYL PEROXIDE	mg/m3	5	5	1500	no	no	PA30VAGHE	
BERYLLIUM	mg/m3	0.002	0.002		no	no		PA3HE
BIPHENYL	ppm	0.2	0.2	100	no	no	PA30VAGHE	
BIS(CHLOROMETHYL) ETHER	ppm	CA	CA		no	no		
2,2 - BIS (p - CHLOROPHENYL) -								
1,1,1-TRICHLOROETHANE	mg/m3	15	10		no	no	PA30VAGHE	
BIS(2,3-EPOXYPROPYL) ETHER	mg/m3	C 2.8	0.1		no	no	PA30VAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
BIS(2-ETHYLHEXYL) PHTHALATE	mg/m3	5	5		no	no	PA3OVAGHE	
2,2-Bis(P-METHOXYPHENYL)-1,1,1-TRICHLOROETHANE	mg/m3	15	10		no	no	PA3OVAGHE	
BISMUTH TELLURIDE	mg/m3	R 5	10		no	no		PA3HE
BORATES, (Tetra) SODIUM SALTS	mg/m3		1		no	no		PA3HE
BORON OXIDE	mg/m3	15	10	2000	no	no		PA3HE
BORON TRIBROMIDE	ppm		C1		no	no	PA3OVAGHE, PA3NBC, SAR	
BORON TRIFLUORIDE	ppm	1	C1	25	no	no	PA3OVAGHE, PA3NBC, SAR	
BROMACIL (ISO)	mg/m3		10		no	no	PA3OVAGHE	
BROMINE	ppm	0.1	0.1	3	yes	no	PA3OVAGHE, or PA3NBC	
BROMINE PENTAFLUORIDE	ppm		0.1		no	no	PA3OVAGHE, PA3NBC, SAR	
BROMOCHLOROMETHANE	ppm	200	200	2000	no	no	SAR	
BROMOETHANE	ppm	200	5	2000	yes	no	SAR	
BROMOETHYLENE	ppm				no	no	SAR	
BROMOFORM	ppm	0.5	0.5	850	yes	yes	PA3OVAGHE	
BROMOMETHANE	ppm	20	1		no	yes	SAR	
BROMOTRIFLUOROMETHANE	ppm	1000	1000	40000	no	no	SAR	
1,3-BUTADIENE	ppm	1	2	20000	yes	no	PA3OVAGHE	
BUTAN-1-OL	ppm	100	20	1400	yes	yes	PA3OVAGHE	
BUTAN-2-OL	ppm	150	100	2000	no	no	PA3OVAGHE	
BUTAN-2-ONE	ppm	200	200	3000	yes	no	PA3OVAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
BUTANE	ppm	600	1000		no	no	SAR	
2-BUTOXYETHANOL	ppm	50	20	700	yes	yes	PA3OVAGHE	
BUTYL ACETATE	ppm	150	150	1700	yes	no	PA3OVAGHE	
SEC-BUTYL ACETATE	ppm	200	200	1700	no	no	PA3OVAGHE	
TERT-BUTYL ACETATE	ppm	200	200	1500	no	no	PA3OVAGHE	
BUTYL ACRYLATE	ppm		2		yes	no	PA3OVAGHE	
n-BUTYL ALCOHOL	ppm	100	20	1400	yes	yes	PA3OVAGHE	
sec-BUTYL ALCOHOL	ppm	150	100	2000	no	no	PA3OVAGHE	
tert-BUTYL ALCOHOL	ppm	100	100	1600	no	no	PA3OVAGHE	
N-BUTYLAMINE	ppm	5	C 5	300	no	yes	PA3NBC	
n-BUTYLGLYCIDYL ETHER	ppm	50	25	250	yes	no	PA3OVAGHE	
BUTYL LACTATE	ppm		5		no	no	PA3OVAGHE	
BUTYL MERCAPTAN	ppm	10	0.5	500	yes	yes	PA3OVAGHE	
2-SEC-BUTYLPHENOL	ppm		5		yes	yes	PA3OVAGHE	
p-tert-BUTYLTOLUENE	ppm	10	1	100	yes	yes	PA3OVAGHE	
CADMIUM DUST (AS CD)	mg/m3	0.005	0.01		no	no		PA3HE
CADMIUM OXIDE FUME (AS CD)	mg/m3	0.01	0.01		no	no		PA3HE
CALCIUM CARBONATE	mg/m3	R 5	10		no	no		PA3HE
CALCIUM CYANAMIDE	mg/m3		0.5		yes	yes		PA3HE
CALCIUM HYDROXIDE	mg/m3	R 5	5		no	no		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
CALCIUM OXIDE	mg/m3	5	2	25	yes	yes		PA3HE
CALCIUM SILICATE	mg/m3	R 5	10		no	no		PA3HE
CAMPHOR , SYNTHETIC	mg/m3	2	2	200	no	no	PA3OVAGHE	
e-CAPROLACTAM	ppm		5		yes	yes	PA3OVAGHE	
CAPTAFOL (ISO)	mg/m3		0.1		yes	yes	PA3OVAGHE	
CAPTAN (ISO)	mg/m3		5		no	no		PA3HE
CARBARYL (ISO)	mg/m3	5	5	100	no	no	PA3OVAGHE	
CARBOFURAN (ISO)	mg/m3		0.1		no	no	PA3OVAGHE	
CARBON BLACK	mg/m3	3.5	3.5	1750	yes	no		PA3HE
CARBON DIOXIDE	ppm	5000	5000	40000	no	no	SAR	
CARBON DISULFIDE	ppm	20	10	500	no	yes	PA3OVAGHE	
CARBON MONOXIDE	ppm	50	25	1200	no	no	SAR	
CARBON TETRABROMIDE	ppm		0.1		no	no	PA3OVAGHE, SAR	
CARBON TETRACHLORIDE	ppm	10	5		yes	yes	PA3OVAGHE, SAR	
CARBONYL CHLORIDE	ppm	0.1	0.1	2	no	no	PA3OVAGHE, or PA3NBC	
CATECHOL	mg/m3		5		yes	yes	PA3OVAGHE	
CELLULOSE	mg/m3	R 5	10		no	no		PA3HE
CEMENT	mg/m3	R 5	10	5000	yes	yes		PA3HE
CESIUM HYDROXIDE	mg/m3		2		no	no		PA3HE
CHLORDANE (ISO)	mg/m3	0.5	0.5		no	yes	PA3OVAGHE	
CHLORINATED BIPHENYLS (42% CHLORINE)	mg/m3	1	1		yes	yes	PA3OVAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
CHLORINATED BIPHENYLS (54% CHLORINE)	mg/m3	0.5	0.5		yes	yes	PA30VAGHE	
CHLORINE	ppm	1	0.5	10	yes	yes	PA30VAGHE, or PA3NBC	
CHLORINE DIOXIDE	ppm	0.1	0.1	5	no	no	PA30VAGHE, or PA3NBC	
CHLORINE TRIFLUORIDE	ppm	0.1	C 0.1	20	yes	no	SAR	
CHLOROACETALDEHYDE	ppm	1	C 1	45	yes	yes	PA30VAGHE, SAR	
2-CHLOROACETOPHENONE	ppm	0.05	0.05	15	yes	no	PA30VAGHE	
1-CHLORO-2,3-EPOXY-PROPANE	ppm	5.00	0.5		yes	yes	PA30VAGHE, SAR	
CHLOROACETYL CHLORIDE	ppm		0.05		yes	no	PA30VAGHE, SAR	
CHLOROENZENE	ppm	75	10	1000	no	no	PA30VAGHE	
CHLOROBROMOMETHANE	ppm	200	200	2000	yes	no	PA30VAGHE, SAR	
2-CHLOROBUTA-1,3-DIENE	ppm	25	10		yes	yes	PA30VAGHE, SAR	
CHLORODIMETHYL ETHER		CA	CA		yes		SAR	
CHLORODIFLUOROMETHANE	ppm	1000	1000		no	no	SAR	
CHLOROETHANE	ppm	1000	100	3800	no	no	SAR	
2-CHLOROETHANOL	ppm	5	C 1	7	no	yes	PA30VAGHE	
CHLOROETHYLENE	ppm	1	1		yes	no	SAR	
CHLOROFORM	ppm	50	10		no	no	PA30VAGHE, SAR	
CHLOROMETHANE	ppm	100	50		no	no	SAR	
1-CHLORO-4-NITROBENZENE	mg/m3	1	0.1		yes	yes	PA30VAGHE	
CHLOROPENTAFLUROETHANE	ppm		1000		no	no	SAR	
CHLOROPICRIN	ppm	0.1	0.1	2	yes	yes	PA30VAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
b-CHLOROPRENE	ppm	25	10		yes	yes	PA30VAGHE, SAR	
3-CHLOROPROPENE	ppm	1	1	250	yes	no	PA30VAGHE	
2-CHLOROTOLUENE	ppm		50	10	yes	yes	PA30VAGHE	
2-CHLORO-6-(TRICHLOROMETHYL)PYRIDINE	mg/m3	R 5	10		yes	yes	PA30VAGHE	
CHLORPYRIFOS (ISO)	mg/m3		0.1		yes	yes	PA30VAGHE	
CHROMIUM	mg/m3	1	0.5	250	no	no		PA3HE
CHROMIUM (II) COMPOUNDS (AS CR)	mg/m3	0.5	0.5	250	no	no		PA3HE
CHROMIUM (III) COMPOUNDS (AS CR)	mg/m3	0.5	0.5	250	no	no		PA3HE
CHROMIUM (VI) COMPOUNDS (AS CR)	mg/m3	C 0.1	0.01		no	no		PA3HE
CHROMIUM TRIOXIDE	mg/m3	C 0.1	0.05					PA3HE
COAL DUST	mg/m3	2.4	0.4		no	no		PA3HE
COAL TAR PITCH VOLATILES (AS BENZENE SOLUBLES)	mg/m3	C 0.1	0.01				PA30VAGHE	
COBALT AND COMPOUNDS (AS CO)	mg/m3	0.1	0.02	20	no	no		PA3HE
COPPER, DUSTS AND MISTS	mg/m3	1	1	100	no	no		PA3HE
COPPER, FUME	mg/m3		0.2	100	no	no		PA3HE
COTTON DUST	mg/m3	0.2	0.2	100	no	no		PA3HE
CRESOLS (ALL ISOMERS)	ppm	5	5	250	yes	yes	PA30VAGHE	
CRISTOBALITE	mg/m3	15	0.05		no	no		PA3HE
CRYOFLUORANE (INN)	ppm	1000	1000	15000	no	no	SAR	
CRYSTALLINE SILICA ( RESPIRABLE)	mg/m3	15			no	no		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
CUMENE	ppm	50	50	900	yes	yes	PA3OVAGHE	
CYANAMIDE	mg/m3		2		yes	no		PA3HE
CYANIDES, EXCEPT HYDROGEN CYANIDE, _ CYANOGEN & CYANOGEN CHLORIDE, (AS -CN)	mg/m3	5	5		no	yes	SAR	
CYANOGEN	ppm		10		no	no	SAR	
CYANOGEN CHLORIDE	ppm		C 0.3		yes	no	SAR	
CYCLOHEXANE	ppm	300	100	1300	no	no	PA3OVAGHE	
CYCLOHEXANOL	ppm	50	50	400	no	no	PA3OVAGHE	
CYCLOHEXANONE	ppm	50	20	700	no	yes	PA3OVAGHE	
CYCLOHEXENE	ppm	300	300	2000	no	no	PA3OVAGHE	
CYCLOHEXYLAMINE	ppm		10		no	yes	PA3OVAGHE	
CYCLONITE (RDX)	mg/m3		0.5		no	yes		PA3HE
2,4-D (ISO)	mg/m3	10	10	100	no	yes		PA3HE
DGE	mg/m3	C2.8	0.1		yes	yes	PA3OVAGHE, SAR	
DDT	mg/m3	1	1		no	no		PA3HE
DDVP	ppm	1		100	no	yes	PA3OVAGHE	
DMDT	mg/m3	15	10		no	no		PA3HE
DIACETONE ALCOHOL	ppm	50	50	1800	no	no	PA3OVAGHE	
2,2'-DIAMINODIETHYLAMINE	ppm		1		no	yes	PA3OVAGHE	
4,4'-DIAMINODIPHENYLMETHANE	ppm	0.01	0.1		yes	no	PA3OVAGHE, SAR	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
1,2-DIAMINOETHANE	ppm	10	10	1000			PA30VAGHE	
DIATOMACEOUS EARTH, NATURAL, RESPIRABLE DUST	mg/m3		3	3000	no	no		PA3HE
DIAZINON (ISO)	mg/m3		0.1		yes	yes	PA30VAGHE	
DIAZOMETHANE	ppm	0.2	0.2	2	no	no	SAR	
DIBENZOYL PEROXIDE	mg/m3	5	5	1500	yes	yes	PA30VAGHE	
DIBORANE	ppm	0.1	0.1	15	yes	no	SAR	
DIBROM	mg/m3	3	3	200	yes	yes	PA30VAGHE	
1,2-DIBROMO-3-CHLOROPROPANE	ppm	0.001			yes	yes	SAR	
DIBROMODIFLUOROMETHANE	ppm	100	100	2000	yes	yes	SAR	
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ppm	20			yes	yes	PA30VAGHE	
DIBUTYL HYDROGEN PHOSPHATE	ppm	1	1	30	yes	yes	PA30VAGHE	
DIBUTYL PHTHALATE	mg/m3	5	5	4000	no	no	PA30VAGHE	
DICHLOROACETYLENE	ppm		C 0.1		no	no	SAR	
1,2-DICHLOROBENZENE	ppm	50	25	200	yes	no	PA30VAGHE	
1,4-DICHLOROBENZENE	mg/m3	75	10		yes	no	PA30VAGHE	
3,3'-DICHLOROBENZIDINE AND ITS SALTS		CA			yes	yes	SAR	
DICHLORODIFLUOROMETHANE	ppm	1000	1000	15000	no	no	SAR	
1,3-DICHLORO-5,5-DIMETHYL-HYDANTOIN	mg/m3	0.2	0.2	5	yes	yes	PA30VAGHE	
DICHLORODIPHENYL-TRICHLOROETHANE	mg/m3	1			yes	yes		PA3HE
1,1-DICHLOROETHANE	ppm	100	100	3000	yes	yes	PA30VAGHE, SAR	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	ppm	50	10		yes	yes	PA30VAGHE, SAR	
1,1-DICHLOROETHYLENE	ppm		5		yes	yes	PA30VAGHE, SAR	
1,2-DICHLOROETHYLENE, CIS:TRANS ISOMERS 60:40	ppm	200	200	1000	yes	yes	PA30VAGHE, SAR	
DICHLOROFUOROMETHANE	ppm	1000	10	5000	no	no	SAR	
DICHLOROMETHANE	ppm	25	50	5000	yes	yes	SAR	
2,4-DICHLOROPHENOXYACETIC ACID	mg/m3	10	10	100	no	yes		PA3HE
1,2-DICHLOROTETRA-FLUOROETHANE	ppm	1000	1000	15000	no	no	SAR	
DICHLORVOS (ISO)	mg/m3	1	0.1	100	no	yes	PA30VAGHE	
DICYCLOPENTADIENE	ppm		5		yes	no	PA30VAGHE	
DICYCLOPENTADIENYLIRON	mg/m3	R 5	10		no	no		PA3HE
DIELDRIN (ISO)	mg/m3	0.25	0.25		no	yes	PA30VAGHE	
DIETHANOLAMINE	mg/m3		2		no	no	PA30VAGHE	
DIETHYLAMINE	ppm	25	5	200	no	no	PA30VAGHE, PA3NBC	
2-DIETHYLAMINOETHANOL	ppm	10	2	100	yes	yes	PA30VAGHE	
DIETHYLENE GLYCOL	ppm				no	no		PA3HE
DIETHYLENE TRIAMINE	ppm		1		no	yes	PA30VAGHE, SAR	
DIETHYL ETHER	ppm	400	400	1900	yes	no	PA30VAGHE, SAR	
DI-(2-ETHYLHEXYL) PHTHALATE	mg/m3	5	5		no	no		PA3HE
DIETHYL KETONE	ppm		200		no	no	PA30VAGHE	
DIETHYL PHTHALATE	mg/m3		5		no	no		PA3HE
DIFLUOROCHLOROMETHANE	ppm	1000	1000		no	no	SAR	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
DIFLUORODIBROMOMETHANE	ppm	100	100	2000	no	no	PA30VAGHE , SAR	
DIFLUORODICHLOROMETHANE	ppm	1000	1000	15000	no	no	SAR	
DIGLYCIDYL ETHER	ppm	C2.8	0.1		no	no	PA30VAGHE	
o-DIHYDROXYBENZENE	ppm		5		yes	yes	PA30VAGHE	
m-DIHYDROXYBENZENE	ppm		10		yes	yes	PA30VAGHE	
p-DIHYDROXYBENZENE	mg/m3	2	2	50	yes	yes	PA30VAGHE	
1,2-DIHYDROXYETHANE	mg/m3		C 100		yes	yes	PA30VAGHE	
DIISOBUTYL KETONE	ppm	50	25	500	yes	yes	PA30VAGHE	
DIISOPROPYLAMINE	ppm	5	5	200	yes	yes	PA30VAGHE	
DIISOPROPYL ETHER	ppm	500	250	500	no	no	PA30VAGHE	
DIMETHOXYMETHANE	ppm	1000	1000	2200	yes	yes	SAR	
N,N-DIMETHYLACETAMIDE	ppm	10	10	300	no	yes	PA30VAGHE, SAR	
DIMETHYLAMINE	ppm	10	5	500	yes	yes	PA3NBC, SAR	
4-DIMETHYLAMINOAZOBENZENE	mg/m3	CA					SAR	
N,N-DIMETHYLANILINE	ppm	5	5	100	yes	yes	PA30VAGHE	
1,3-DIMETHYLBUTYL ACETATE	ppm	50	50	500	yes	yes	PA30VAGHE	
DIMETHYLCARBAMOYL CHLORIDE					yes	yes	PA30VAGHE	
DIMETHYLFORMAMIDE	ppm	10	10	500	yes	yes	PA30VAGHE	
2,6-DIMETHYLHEPTAN-4-ONE	ppm	50	25	500	yes	yes	PA30VAGHE	
1,1-DIMETHYLHYDRAZINE	ppm	0.5	0.01		yes	yes	SAR	
DIMETHYLNITROSAMINE					no	no	SAR	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
DIMETHYL PHTHALATE	mg/m3	5	5	2000	yes	no	PA30VAGHE	
DIMETHYL SULFATE	ppm	1	0.1		yes	yes	PA30VAGHE	
DINITROBENZENE, ALL ISOMERS	ppm		0.15		no	yes	PA30VAGHE	
DINITRO- <i>o</i> -CRESOL	mg/m3	0.2	0.2	5	no	yes		PA3HE
DI- <i>sec</i> -OCTYL PHTHALATE	ppm	5	5		yes	no		PA3HE
1,4-DIOXANE, TECH. GRADE	ppm	100	20		yes	yes	PA30VAGHE	
DIOXATHION (ISO)	mg/m3		0.1		yes	yes	PA30VAGHE	
DIPHENYL	ppm	0.2	0.2	100	no	no	PA30VAGHE	
DIPHENYLAMINE	mg/m3		10		yes	yes		PA3HE
DIPHENYL ETHER (VAPOUR)	ppm	1	1	100	yes	yes	PA30VAGHE	
DIQUAT DIBROMIDE (ISO)	mg/m3		R 0.1		yes	yes		PA3HE
DISODIUM TETRABORATE, DECAHYDRATE	mg/m3		5		yes	yes		PA3HE
DISULFUR DECAFLUORIDE	ppm	0.025	C 0.01	1	yes	yes	PA30VAGHE, PA3NBC, SAR	
DIVANADIUM PENTAOXIDE (AS V)	mg/m3	C (R) 0.5	0.05	35	yes	yes		PA3HE
DIVINYLBENZENE	ppm		10		yes	yes	PA30VAGHE, SAR	
DUSTS	mg/m3				no	no		PA3HE
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EGDN	ppm	0.2	0.05	75	yes	yes	PA30VAGHE, SAR	
EMERY	mg/m3	R 5	10		yes	yes		PA3HE
ENDOSULFAN (ISO)	mg/m3		0.1		yes	yes		PA3HE
ENDRIN (ISO)	mg/m3	0.1	0.1	2	yes	yes		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
ENFLURANE	ppm		75		yes	no	SAR	
EPICHLOROHYDRIN	ppm	5	0.5		yes	yes	PA30VAGHE, SAR	
1,2-EPOXYPROPANE (PROPYLENE OXIDE)	ppm	100	2		yes	yes	PA30VAGHE, SAR	
2,3-EPOXYPROPYL ISOPROPYL ETHER	ppm	50	50	400	yes	yes	PA30VAGHE, SAR	
ETHANE	ppm		1000		no	no	SAR	
ETHANE-1,2-DIOL	mg/m3		C 100		yes	yes	PA30VAGHE	
ETHANETHIOL	ppm	10	0.5	500	yes	yes	PA30VAGHE	
ETHANOL	ppm	1000	1000	3300	yes	yes	SAR	
ETHANOLAMINE	ppm	3	3	30	yes	yes	PA30VAGHE	
ETHER	ppm	400	400	1900	yes	yes	SAR	
2-ETHOXYETHANOL	ppm	200	5	500	yes	yes	PA30VAGHE	
2-ETHOXYETHYL ACETATE	ppm	100	5	500	yes	yes	PA30VAGHE	
ETHYL ACETATE	ppm	400	400	2000	yes	yes	PA30VAGHE	
ETHYL ACRYLATE	ppm	25	5		yes	yes	PA30VAGHE	
ETHYL ALCOHOL	ppm	1000	1000	3300	yes	yes	PA30VAGHE	
ETHYLAMINE	ppm	10	5	600	yes	yes	PA3NBC	
ETHYL AMYL KETONE	ppm	25	25	100	yes	yes	PA30VAGHE	
ETHYLBENZENE	ppm	100	100	800	yes	yes	PA30VAGHE	
ETHYL BROMIDE	ppm	200	5	2000	yes	yes	SAR	
ETHYL BUTYL KETONE	ppm	50	50	1000	yes	yes	PA30VAGHE	
ETHYL CHLORIDE	ppm	1000	100	3800	no	no	SAR	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
ETHYL CYANOACRYLATE	ppm		0.2		yes		PA30VAGHE, SAR	
ETHYLENE	ppm				no	no	SAR	
ETHYLENE CHLOROHYDRIN	ppm	5	C 1	7	yes	yes	PA30VAGHE	
ETHYLENEDIAMINE	ppm	10	10	1000	yes	yes	PA30VAGHE	
ETHYLENE DIBROMIDE	ppm	20			yes	yes	PA30VAGHE	
ETHYLENE DICHLORIDE	ppm	50	10		yes	yes	PA30VAGHE	
ETHYLENE DINITRATE	ppm	0.2	0.05	75	yes	yes	PA30VAGHE, SAR	
ETHYLENE GLYCOL	mg/m3		C 100		yes	yes	PA30VAGHE	
ETHYLENE GLYCOL DINITRATE	ppm	0.2	0.05	75	yes	yes	PA30VAGHE	
ETHYLENE GLYCOL MONOBUTYL ETHER	ppm	50	20	700	yes	yes	PA30VAGHE	
ETHYLENE GLYCOL MONOETHYL ETHER ACETATE	ppm	100	5	500	yes	yes	PA30VAGHE	
ETHYLENE GLYCOL MONOETHYL ETHER	ppm	200	5	500	yes	yes	PA30VAGHE	
ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE	ppm	25	5	200	yes	yes	PA30VAGHE	
ETHYLENE GLYCOL MONOMETHYL ETHER	ppm	25	5	200	yes	yes	PA30VAGHE	
ETHYLENEIMINE	ppm		0.5		yes	yes	SAR	
ETHYLENE OXIDE	ppm	1	1	80	yes	yes	SAR	
ETHYL ETHER	ppm	400	400	1900	yes	yes	PA30VAGHE, SAR	
ETHYL FORMATE	ppm	100	100	1500	yes	no	PA30VAGHE, SAR	
ETHYLIDENE DICHLORIDE	ppm	100	100	3000	yes	yes	PA30VAGHE, SAR	
ETHYL MERCAPTAN	ppm	10	0.5	500	yes	yes	PA30VAGHE	
4-ETHYLMORPHOLINE	ppm	20	5	100	yes	yes	PA30VAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
ETHYL SILICATE	ppm	100	10	700	yes	yes	PA30VAGHE	
FENCHLORPHOS (ISO)	mg/m3	15	10	300	yes	no	PA30VAGHE	
FERBAM (ISO)	mg/m3	15	10	800	yes	yes		PA3HE
FERROCENE	mg/m3	R 5	10		no	no	PA30VAGHE	
FLOUR DUST	mg/m3		0.5		no			PA3HE
FLUORIDE (AS F)	mg/m3	2.5	2.5		no	no		PA3HE
FLUORINE	ppm	0.1	1	25	yes	yes	SAR	
FLUORODICHLOROMETHANE	ppm	1000	10	5000	no	no	SAR	
FLUOROTRICHLOROMETHANE	ppm	1000	C 1000	2000	no	yes	SAR	
FORMALDEHYDE	ppm	0.75	C 0.3		yes	no	PA3NBC	
FORMAMIDE	ppm		10		yes	yes	PA30VAGHE, SAR	
FORMIC ACID	ppm	5	5	30	yes	yes	PA30VAGHE, SAR	
2-FURALDEHYDE	ppm	5	2	100	yes	yes	PA30VAGHE	
FURFURAL	ppm	5	2	100	yes	yes	PA30VAGHE	
FURFURYL ALCOHOL	ppm	50	10	75	yes	yes	PA30VAGHE	
GASOLINE	ppm		300		yes	yes	PA30VAGHE	
GERMANE	ppm		0.2		no	no	SAR	
GERMANIUM TETRAHYDRIDE	ppm		0.2		no	no	SAR	
GLASS FIBERS	mg/m3	R 5	1 f/cc		yes	yes		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
GLUTARALDEHYDE	ppm		C 0.05		yes	yes	PA30VAGHE	
GLYCEROL, MIST	mg/m3	R 5	10		yes	yes		PA3HE
GLYCEROL TRINITRATE	ppm	0.2	0.05	75	no	yes	PA30VAGHE, SAR	
GLYCOL ETHERS	ppm	50	20	700	yes	yes	PA30VAGHE, SAR	
GLYCOL MONOETHYL ETHER	ppm	200	5	500	yes	yes	PA30VAGHE	
GRAIN DUST	mg/m3	10	4		no	no		PA3HE
GRAPHITE	mg/m3	R 5	R 2		no	no		PA3HE
GUTHION	mg/m3	0.2	0.2	10	yes	no	PA30VAGHE	
GYP SUM	mg/m3	R 5	10		yes	yes		PA3HE
HAFNIUM	mg/m3	0.5	0.5	250	yes	yes		PA3HE
HALOTHANE	ppm		50		yes	yes	PA30VAGHE	
γ-HCH (ISO)	mg/m3	0.5	0.5	50	yes	yes	PA30VAGHE	
HELIUM	ppm				no	no	SAR	
HEPTANE	ppm	500	400	750	yes	yes	PA30VAGHE	
HEPTAN-2-ONE	ppm	100	50	800	yes	yes	PA30VAGHE	
HEPTAN-3-ONE	ppm	50	50	1000	yes	yes	PA30VAGHE	
HEXACHLOROETHANE	ppm	1	1		yes	yes	PA30VAGHE	
HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZINE	mg/m3		0.5		no	yes		PA3HE
HEXAMETHYLPHOPHORIC TRIAMIDE					yes	yes	PA30VAGHE	
N-HEXANE	ppm	500	50	1100	yes	yes	PA30VAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
HEXAN-2-ONE	ppm	100	5	1600	yes	yes	PA30VAGHE	
HEXONE	ppm	100	50	500	yes	yes	PA30VAGHE	
HEXYLENE GLYCOL	ppm		C25		yes	yes	PA30VAGHE	
HYDRAZINE	ppm	1	0.01		yes	yes	SAR	
HYDROGEN	ppm				no	no	SAR	
HYDROGEN BROMIDE	ppm	3	C 2	30	yes	yes	PA30VAGHE, or PA3NBC	
HYDROGEN CHLORIDE	ppm	5	C 2	50	yes	yes	PA30VAGHE, or PA3NBC	
HYDROGEN CYANIDE	ppm	10	C4.7	50	no	no	SAR	
HYDROGEN FLUORIDE (AS F)	ppm	3	C 3	30	yes	yes	PA30VAGHE	
HYDROGEN PEROXIDE	ppm	1	1	75	yes	yes	SAR	
HYDROGEN SELENIDE (AS SE)	ppm	0.05	0.5	1	yes	no	SAR	
HYDROGEN SULFIDE	ppm	C 20	10	100	yes	no	SAR	
HYDROQUINONE	mg/m3	2	2	50	yes	yes	PA30VAGHE	
4-HYDROXY-4-METHYL-PENTAN-2-ONE	ppm	50	50	1800	yes	yes	PA30VAGHE	
2-HYDROXYPROPYL ACRYLATE	ppm		0.5		yes	yes	PA30VAGHE	
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IGE	ppm	50	50	400	yes	yes	PA30VAGHE, SAR	
IPDI	ppm		0.005		yes	yes	PA30VAGHE, SAR	
2,2'-IMINODIETHANOL	mg/m3		2		yes	yes	PA30VAGHE	
INDENE	ppm		10		yes	yes	PA30VAGHE	
INDIUM AND COMPOUNDS (AS IN)	mg/m3		0.1		yes	yes		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
IODINE	ppm	0.1	C 0.1	2	yes	yes	PA30VAGHE, SAR	
IODOFORM	ppm	0.6	0.6		yes	yes	PA30VAGHE, SAR	
IODOMETHANE	ppm	5	2		yes	yes	SAR	
IRON OXIDE, FUME (AS FE)	mg/m3	10	5	2500	no	no		PA3HE
IRON PENTACARBONYL	ppm		0.1		yes	no	SAR	
IRON SALTS (AS FE)	mg/m3		1		yes	yes		PA3HE
ISOAMYL ACETATE	ppm	100	50	1000	yes	yes	PA30VAGHE	
ISOAMYL ALCOHOL	ppm	100	100	500	yes	yes	PA30VAGHE	
ISOAMYL METHYL KETONE	ppm	100	50		yes	yes	PA30VAGHE	
ISOBUTYL ACETATE	ppm	150	150	1300	yes	yes	PA30VAGHE	
ISOBUTYL ALCOHOL	ppm	100	50	1600	yes	yes	PA30VAGHE	
ISOBUTYL METHYL KETONE	ppm	100	50	500	yes	yes	PA30VAGHE	
ISOOCTYL ALCOHOL (MIXED ISOMERS)	ppm		50		yes	yes	PA30VAGHE, SAR	
ISOPENTYL ACETATE	ppm	100	50	1000	yes	yes	PA30VAGHE	
ISOPHORONE	ppm	25	C 5	200	yes	yes	PA30VAGHE	
ISOPHORONE DIISOCYANATE	ppm		0.005		yes	yes	PA30VAGHE, SAR	
ISOPROPYL ACETATE	ppm	250	100	1800	yes	yes	PA30VAGHE	
ISOPROPYL ALCOHOL	ppm	400	200	2000	yes	yes	PA30VAGHE	
ISOPROPYL BENZENE	ppm	50	50	900	yes	yes	PA30VAGHE	
ISOPROPYL ETHER	ppm	500	250	1400	yes	yes	PA30VAGHE	
ISOPROPYL GLYCIDYL ETHER	ppm	50	50	400	yes	yes	PA30VAGHE, SAR	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
KAOLIN	mg/m3	R 5	2		no	no		PA3HE
KETENE	ppm	0.5	0.5	5	yes	yes	SAR	
LPG (LIQUEFIED PETROLEUM GAS)	ppm	1000	1000	2000	no	no	SAR	
LEAD AND INORGANIC COMPOUNDS (as Pb)	mg/m3	0.05	0.05	100	yes	no		PA3HE
LIMESTONE	mg/m3	R 5	10		yes	yes		PA3HE
LINDANE	mg/m3	0.5	0.5	50	yes	yes	PA3OVAGHE	
LITHIUM HYDRIDE	mg/m3	0.025	0.025	0.5	yes	yes		PA3HE
LITHIUM HYDROXIDE	mg/m3				yes	no		PA3HE
MDA	ppm	0.01	0.1		yes	no	PA3OVAGHE, SAR	
MDI	ppm	C 0.02	0.005	7	yes	no	PA3OVAGHE, SAR	
MEK	ppm	200	200	3000	yes	yes	PA3OVAGHE	
MIKB	ppm	100	50	500	yes	yes	PA3OVAGHE	
MAGNESITE	mg/m3	R 5	10		yes	yes		PA3HE
MAGNESIUM OXIDE, FUME AND DUST (AS MG)	mg/m3	15	10	750	yes	no		PA3HE
MALATHION (ISO)	mg/m3	15	1	250	yes	yes	PA3OVAGHE	
MALEIC ANHYDRIDE	ppm	0.25	0.1	10	yes	yes	PA3OVAGHE	
MANGANESE, FUME (AS MN)	mg/m3	C 5	0.2	500	no	no		PA3HE
MANGANESE AND COMPOUNDS (AS MN)	mg/m3	C 5	0.2	500	no	no		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
MANGANESE CYCLOPENTADIENYL TRICARBONYL	mg/m3	5	0.1		no	yes	SAR	
MANGANESE TETROXIDE	mg/m3	C 5			no	no		PA3HE
MARBLE	mg/m3	R 5	10		yes	yes		PA3HE
MEQUINOL (INN) (P-METHOXYPHENOL)	mg/m3		5		yes	yes		PA3HE
MERCAPTOACETIC ACID	ppm		1		yes	yes	PA3OVAGHE, SAR	
MERCURY ALKYL (AS HG)	mg/m3	0.01	0.01	2	yes	yes	SAR	
MERCURY & ITS INORGANIC DIVALENT COMPOUNDS	mg/m3	0.1	0.025	10	yes	yes	SAR	
MESITYLENE	ppm		25		yes	yes	PA3OVAGHE	
MESITYL OXIDE	ppm	25	15	1400	yes	yes	PA3OVAGHE	
METHACRYLIC ACID	ppm		20		yes	yes	PA3OVAGHE	
METHACRYLONITRILE	ppm		1		yes	yes	SAR	
METHANE	ppm		1000		no	no	SAR	
METHANETHIOL	ppm	C 10	0.5	150	yes	yes	PA3OVAGHE, SAR	
METHANOL	ppm	200	200	6000	yes	yes	SAR	
METHOMYL (ISO)	mg/m3		2.5		yes	yes		PA3HE
METHOXYCHLOR (ISO)	mg/m3	15	10		no	no		PA3HE
2-METHOXYETHANOL	ppm	25	5	200	yes	yes	PA3OVAGHE	
2-METHOXYETHYL ACETATE	ppm	25	5	200	yes	yes	PA3OVAGHE	
p-METHOXYPHENOL	mg/m3		5		yes	yes		PA3HE
1-METHOXYPROPAN-2-OL	ppm		100		yes	yes	PA3OVAGHE	
METHYL ACETATE	ppm	200	200	3100	yes	yes	PA3OVAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
METHYL ACRYLATE	ppm	10	2	250	yes	yes	PA30VAGHE	
METHYLAL	ppm	1000	1000	2200	yes	yes	SAR	
METHYL ALCOHOL	ppm	200	200	6000	yes	yes	SAR	
METHYLAMINE	ppm	10	5	100	yes	yes	PA3NBC	
METHYL-n-AMYL-KETONE	ppm	100	50	800	yes	yes	PA30VAGHE	
N-METHYLANILINE	ppm	2	0.5	100	no	no	PA30VAGHE , SAR	
2-METHYLAZIRIDINE	ppm	2	2		yes	yes	PA30VAGHE, SAR	
METHYL BROMIDE	ppm	20	1		yes	yes	SAR	
3-METHYLBUTAN-1-OL	ppm	100	100	500	yes	yes	PA30VAGHE	
1-METHYLBUTYL ACETATE	ppm	125	50	1000	yes	yes	PA30VAGHE	
METHYL-n-BUTYL KETONE	ppm	100	5	1600	yes	yes	PA30VAGHE	
METHYL CHLORIDE	ppm	100	50		yes	yes	SAR	
METHYL CHLOROFORM	ppm	350	350	700	yes	yes	PA30VAGHE	
METHYL-2-CYANOACRYLATE	ppm		0.2		yes	yes	PA30VAGHE, SAR	
METHYLCYCLOHEXANE	ppm	500	400	1200	no	no	PA30VAGHE, SAR	
METHYLCYCLOHEXANOL	ppm	100	50	500	yes	yes	PA30VAGHE, SAR	
2-METHYLCYCLOHEXANONE	ppm	100	50	600	yes	yes	PA30VAGHE	
METHYLCYCLOPENTADIENYL								
MANGANESE, TRICARBONYL (as Mn)	mg/m3	5	0.2		yes	yes	PA30VAGHE	
4,4'-METHYLENEBIS-(2-CHLOROANILINE)	ppm		0.01		yes	yes	PA30VAGHE, SAR	
METHYLENE CHLORIDE	ppm	25	50		yes	yes	SAR	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
4,4'-METHYLENE-DIPHENYL DIISOCYANATE	mg/m3	C 0.02	0.005		no	no	SAR	
4,4'-METHYLENEDIANILINE (MDA)	ppm	0.01	0.1		yes	no	PA30VAGHE, SAR	
METHYL ETHYL KETONE	ppm	200	200	3000	yes	yes	PA30VAGHE	
METHYL ETHYL KETONE PEROXIDES (MEKP)	ppm		C 0.2		yes	yes	PA30VAGHE, SAR	
METHYL FORMATE	ppm	100	100	4500	yes	no	SAR	
5-METHYLHEPTAN-3-ONE	ppm	25	25	100	yes	yes	PA30VAGHE	
5-METHYLHEXAN-2-ONE	ppm	100	50		yes	yes	PA30VAGHE	
METHYL IODIDE	ppm	5	2		yes	yes	SAR	
METHYL ISOAMYL KETONE	ppm	100	50		yes	yes	PA30VAGHE	
METHYL ISOBUTYL CARBINOL	ppm	25	25	400	yes	yes	PA30VAGHE	
METHYL ISOBUTYL KETONE	ppm	100	50	500	yes	yes	PA30VAGHE	
METHYL ISOCYANATE	ppm	0.02	0.02	7.5	yes	yes	SAR	
METHYL MERCAPTAN	ppm	C10	0.5	150	yes	yes	PA30VAGHE, SAR	
METHYL METHACRYLATE	ppm	100	50	1000	yes	yes	PA30VAGHE	
METHYL PARATHION	mg/m3		0.2		yes	yes	PA30VAGHE	
2-METHYLPENTANE-2,4-DIOL	ppm		C 25		yes	yes	PA30VAGHE	
4-METHYLPENTAN-2-OL	ppm	25	25	400	yes	yes	PA30VAGHE	
4-METHYLPENT-3-EN-2-ONE	ppm	25	15	1400	yes	yes	PA30VAGHE	
2-METHYLPROPAN-1-OL	ppm	100	50	1600	yes	yes	PA30VAGHE	
2-METHYLPROPAN-2-OL	ppm	100	100	1600	yes	yes	PA30VAGHE	
METHYL PROPYL KETONE	ppm	200	200	1500	yes	yes	PA30VAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
METHYL SILICATE	ppm		1		yes	no	PA30VAGHE	
a-METHYLSTYRENE	ppm	C100	50	700	yes	no	PA30VAGHE	
METHYLSTYRENES, ALL ISOMERS EXCEPT a-METHYLSTYRENE	ppm	100	50	400	yes	yes	PA30VAGHE	
N-METHYL-N,2,4,6-TETRANITROANILINE	mg/m3	1.5	1.5	750	yes	yes		PA3HE
MEVINPHOS (ISO)	mg/m3	0.1	0.01	4	yes	yes	PA30VAGHE	
MICA	mg/m3	3	3	1500	yes	no		PA3HE
MINERAL WOOL	mg/m3	R 5	1 f/cc		yes	yes		PA3HE
MOLYBDENUM COMPOUNDS (AS MO)	mg/m3	15	10	5000	yes	no		PA3HE
MONOCHLOROACETIC ACID	ppm				yes	yes	PA30VAGHE	
MORPHOLINE	ppm	20	20	1400	yes	yes	PA30VAGHE	
NALED (ISO)	mg/m3	3	0.1	200	yes	yes	PA30VAGHE	
NAPHTHALENE	ppm	10	10	250	yes	yes	PA30VAGHE	
1-NAPHTHYLAMINE		CA			no	yes	SAR	
2-NAPHTHYLAMINE		CA	CA		no	yes	SAR	
NEON	ppm				no	no	SAR	
NICKEL	mg/m3	1	1.5		no	yes		PA3HE
NICKEL CARBONYL	ppm	0.001	0.05		no	no	SAR	
NICKEL INORGANIC COMPOUNDS (AS NI)	mg/m3		0.1		no	no		PA3HE
NICOTINE	ppm	0.5	0.5	5*	no	no	PA30VAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
NITRAPYRIN	mg/m3	R 5	10		no	no	PA30VAGHE	
NITRIC ACID	ppm	2	2	25	yes	yes	SAR	
NITRIC OXIDE	ppm	25	25	100	yes	no	SAR	
4-NITROANILINE	mg/m3	6	3	300	yes	yes	PA30VAGHE	
NITROBENZENE	ppm	1	1	200	yes	yes	PA30VAGHE	
4-NITROBIPHENYL		CA	CA		no	no	SAR	
NITROETHANE	ppm	100	100	1000	yes	yes	PA30VAGHE	
NITROGEN	ppm				no	no	SAR	
NITROGEN DIOXIDE	ppm	C 5	3	20	yes	no	SAR	
NITROGEN MONOXIDE	ppm	25	25	100	yes	no	SAR	
NITROGEN TRIFLUORIDE	ppm	10	10	2000	no	no	SAR	
NITROGLYCERINE	ppm	0.2	0.05	7.5	no	yes	PA30VAGHE	
NITROMETHANE	ppm	100	20	750	yes	yes	PA30VAGHE	
2-NITRONAPHTHALENE					no	yes	PA30VAGHE	
1-NITROPROPANE	ppm	25	25	1000	yes	no	PA30VAGHE	
2-NITROPROPANE	ppm	25	10		yes	yes	PA30VAGHE	
NITROTOLUENE, ALL ISOMERS	ppm	5	2	200	no	yes	PA30VAGHE	
NITROUS OXIDE	ppm		50		no	no	SAR	
OCTACHLORONAPHTHALENE	mg/m3	0.1	0.1		no	yes	PA30VAGHE	
N-OCTANE	ppm	500	300	1000	yes	yes	PA30VAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
OIL MIST, MINERAL	mg/m3	5	5	2500	yes	yes		PA3HE
ORTHOPHOSPHORIC ACID	mg/m3	1	1	1000	yes	yes		PA3HE
OSMIUM TETROXIDE (AS OS)	mg/m3	0.0002	0.0002	1	yes	yes	PA3OVAGHE, SAR	
OXALIC ACID	mg/m3	1	1	500	yes	yes	PA3OVAGHE	
OXALONITRILE	ppm		10		yes	yes	SAR	
OZONE	ppm	0.1	Various	5	yes	no	PA3OVAGHE	
PGDN	ppm		0.05		yes	yes	PA3OVAGHE, SAR	
PARAFFIN WAX, FUME	mg/m3		2		yes	yes		PA3HE
PARAQUAT DICHLORIDE (ISO)	mg/m3	R 0.5	R 0.1	1	yes	yes	PA3OVAGHE	
PARATHION (ISO)	mg/m3	0.1	0.05	10*	yes	yes	PA3OVAGHE	
PARATHION-METHYL (ISO)	mg/m3		0.2		yes	yes	PA3OVAGHE	
PENTACARBONYLIRON (AS FE)	ppm		0.1		yes	no	SAR	
PENTACHLOROPHENOL	mg/m3	0.5	0.5	2.5	yes	yes	PA3OVAGHE	
PENTAERYTHRITOL	mg/m3	R 5	10		yes	no		PA3HE
PENTANE, ALL ISOMERS	ppm	1000	600	1500	yes	yes	PA3OVAGHE	
PENTAN-2-ONE	ppm	200	200	1500	yes	yes	PA3OVAGHE	
PENTAN-3-ONE	ppm		200		yes	yes	PA3OVAGHE	
PENTYL ACETATE	ppm	100	50	1000	yes	yes	PA3OVAGHE	
PERCHLOROETHYLENE	ppm	100	25		yes	yes	PA3OVAGHE	
PERCHLORYL FLUORIDE	ppm	3	3	100	no	no	SAR	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
PHENACYL CHLORIDE	ppm	0.05	0.05	15	yes	yes	PA30VAGHE	
PHENOL	ppm	5	5	250	yes	yes	PA30VAGHE	
p-PHENYLENEDIAMINE	mg/m3	0.1	0.1	25	no	yes	PA30VAGHE	
PHENYL-2,3-EPOXYPROPYL ETHER	ppm	10	0.1		yes	yes	PA30VAGHE, SAR	
PHENYLETHYLENE	ppm	100	20	700	yes	yes	PA30VAGHE	
PHENYL HYDRAZINE	ppm	5	0.1		no	yes	PA30VAGHE, SAR	
PHORATE (ISO)	mg/m3		0.05		yes	yes	PA30VAGHE	
PHOSDRIN	mg/m3	0.1	0.01	4	yes	yes	PA30VAGHE	
PHOSGENE	ppm	0.1	0.1	2	yes	no	PA30VAGHE, SAR	
PHOSPHINE	ppm	0.3	0.3	50	no	no	SAR	
PHOSPHORIC ACID	mg/m3	1	1	1000	yes	yes		PA3HE
PHOSPHORUS, YELLOW	mg/m3	0.1	0.1	5	yes	yes	SAR	
PHOSPHORUS OXYCHLORIDE	ppm		0.1		yes	yes	PA30VAGHE, PA3NBC, SAR	
PHOSPHORUS PENTACHLORIDE	ppm	1	0.1	70	yes	yes	PA3NBC, SAR	
PHOSPHORUS PENTASULFIDE	mg/m3	1	1	250	yes	yes		PA3HE
PHOSPHORUS TRICHLORIDE	ppm	0.5	0.2	25	yes	yes	PA3NBC, SAR	
PHTHALIC ANHYDRIDE	ppm	2	1	60	yes	yes	PA30VAGHE	
PICLORAM (ISO)	mg/m3	R 5	10		yes	yes	PA30VAGHE	
PICRIC ACID	mg/m3	0.1	0.1	75	yes	yes		PA3HE
PIPERAZINE DIHYDROCHLORIDE	mg/m3		5		yes	yes		PA3HE
PLASTER OF PARIS	mg/m3	R 5	10		yes	yes		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
PLATINUM METAL	mg/m3		1		no	no		PA3HE
PLATINUM SALTS, SOLUBLE (AS PT)	mg/m3	0.002	0.002	4	yes	yes		PA3HE
POLYCHLORINATED BIPHENYLS (PCBs)	mg/m3		0.5		yes	no	PA30VAGHE	
PORTLAND CEMENT	mg/m3	R 5	10	5000	yes	yes		PA3HE
POTASSIUM BROMATE					no	no		PA3HE
POTASSIUM HYDROXIDE	mg/m3		C 2		yes	no		PA3HE
PROPANE	ppm	1000	1000	2100	no	no	SAR	
n-PROPANOL	ppm	200	200	800	yes	yes	PA30VAGHE	
PROPAN-1-OL	ppm	200	200	800	yes	yes	PA30VAGHE	
PROPAN-2-OL	ppm	400	200	2000	yes	yes	PA30VAGHE	
3-PROPANOLIDE (PROPIOLACTONE)	ppm		0.5		yes	yes	SAR	
PROPARGYL ALCOHOL	ppm		1		no	yes	PA30VAGHE	
PROPIONIC ACID	ppm		10		yes	yes	PA30VAGHE	
PROPOXUR (ISO)	mg/m3		0.5		no	no	PA30VAGHE	
N-PROPYL ACETATE	ppm	200	200	1700	yes	yes	PA30VAGHE	
PROPYLENE	ppm				no	no	SAR	
PROPYLENE GLYCOL	ppm				no	no	PA30VAGHE	
PROPYLENE GLYCOL DINITRATE	ppm		0.05		yes	no	PA30VAGHE, SAR	
PROPYLENE GLYCOL MONOMETHYL ETHER	ppm		100		yes	yes	PA30VAGHE	
PROPYLENE OXIDE	ppm	100	2		yes	yes	PA30VAGHE, SAR	
PROP-2-YN-1-OL	ppm		1		no	yes	PA30VAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
PYRETHRINS (ISO)	mg/m3	5	5	5000	no	yes		PA3HE
PYRIDINE	ppm	5	1	1000	yes	yes	PA3OVAGHE	
PYROCATECHOL	mg/m3		5		yes	yes	PA3OVAGHE	
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QUARTZ	mg/m3	10	R 0.05		yes	no		PA3HE
QUINONE	ppm	0.1	0.1	100	yes	yes	PA3OVAGHE	
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RDX	mg/m3		0.5		no	yes		PA3HE
RESORCINOL	mg/m3		10		yes	yes	PA3OVAGHE	
RHODIUM METAL	mg/m3	0.1	1	100	no	no		PA3HE
RHODIUM SOLUBLE SALTS	mg/m3	0.001	0.01	100	no	no		PA3HE
RONNEL	mg/m3	15	10	300	yes	no	PA3OVAGHE	
ROSIN CORE SOLDER PYROLYSIS PRODUCTS	mg/m3				yes	no	PA3OVAGHE	
ROTENONE (ISO)	mg/m3	5	5	2500	yes	yes		PA3HE
ROUGE	mg/m3	R 5	10		yes	yes		PA3HE
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SELENIUM AND COMPOUNDS, EXCEPT HYDROGEN SELENIDE (AS SE)	mg/m3	0.2	0.2	1	yes	yes		PA3HE
SILANE	ppm		5		yes	yes	SAR	
SILICA, AMORPHOUS	mg/m3	6	R 3	3000	yes	no		PA3HE
SILICA, CRYSTALLINE, RESPIRABLE DUST	mg/m3	various	R 0.05					PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
SILICA, FUSED	mg/m3		R 0.1		no	no		PA3HE
SILICON	mg/m3	R 5	10		yes	yes		PA3HE
SILICON CARBIDE	mg/m3	R 5	10		yes	yes		PA3HE
SILICON TETRAHYDRIDE	ppm		5		yes	yes	SAR	
SILVER, METALLIC	mg/m3	0.01	0.1	10	yes	yes		PA3HE
SILVER, SOLUBLE COMPOUNDS (AS Ag)	mg/m3	0.01	0.01	10	yes	yes		PA3HE
SODIUM AZIDE (as NaN <sub>3</sub> )	mg/m3		C0.29		yes	yes		PA3HE
SODIUM FLUOROACETATE	mg/m3	0.05	0.05	2.5	no	no		PA3HE
SODIUM HYDROGENSULFITE	mg/m3		5		yes	yes	PA3NBC	PA3HE
SODIUM HYDROXIDE	mg/m3	2	C2	10	yes	yes		PA3HE
SODIUM METABISULFITE	mg/m3		5		yes	yes	PA3NBC	
SOFT WOOD DUST	mg/m3	R 5	5		yes	no		PA3HE
SOLUBLE PLATINUM SALTS	mg/m3	0.002	0.002	4	yes	yes		PA3HE
STARCH	mg/m3	R 5	10		yes	yes		PA3HE
STIBINE	ppm	0.1	0.1	5	no	no	SAR	
STODDARD SOLVENT	ppm	500	100		yes	yes	PA3OVAGHE	
STRONTIUM CHROMATE	mg/m3	C 0.01	0.0005					PA3HE
STRYCHNINE	mg/m3	0.15	0.15	3	no	no		PA3HE
STYRENE	ppm	100	20	700	yes	no	PA3OVAGHE	
SUBTILISINS	mg/m3		C 0.00006		yes	yes	SAR	
SUCROSE	mg/m3	R 5	10		no	no		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
SULFUR DIOXIDE	ppm	5	2	100	yes	no	PA3OVAGHE, or PA3NBC	
SULFUR HEXAFLUORIDE	ppm	1000	1000		no	no	SAR	
SULFURIC ACID	mg/m3	1	0.2	15	yes	yes		PA3HE
SULFUR MONOCHLORIDE	ppm	1	C1	5	yes	yes	PA3NBC	
SULFUR PENTAFLUORIDE	ppm	0.025	C 0.01	1	yes	yes	PA3NBC, SAR	
SULFUR TETRAFLUORIDE	ppm		C 0.1		yes	yes	PA3NBC, SAR	
SULFURYL DIFLUORIDE	ppm	5	5	200	yes	no	SAR	
SYNTHETIC VITREOUS FIBERS	mg/m3	R 5	1 f/cc		yes	yes		PA3HE
<b>2,4,5-T (ISO)</b>								
2,4,5-T (ISO)	mg/m3	10	10	250	no	yes		PA3HE
TDI	ppm	C0.02	0.005		yes	yes	SAR	
TEPP (ISO)	mg/m3	0.05	0.05	5	yes	no	PA3OVAGHE	
TNT	mg/m3	1.5	0.1	500	yes	yes	PA3OVAGHE	
TALC	mg/m3	2	R 2	1000	yes	no		PA3HE
TANTALUM	mg/m3	5	5	2500	yes	yes		PA3HE
<b>TELLURIUM &amp; COMPOUNDS</b>								
EXCEPT HYDROGEN TELLURIDE (AS TE)	mg/m3	0.1	0.1	25	no	yes		PA3HE
TELLURIUM HEXAFLUORIDE (AS TE)	ppm	0.02	0.02	1	no	no	SAR	
TERPHENYLS (ALL ISOMERS)	mg/m3	9	C 5		no	no		PA3HE
1,1,2,2-TETRABROMOETHANE	ppm	1	1	8	yes	yes	PA3OVAGHE, SAR	
TETRABROMOMETHANE	ppm	1.4	0.1		yes	yes	PA3OVAGHE, SAR	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
TETRACARBONYLNICKEL (AS NI)	ppm	0.001	0.05		no	no	SAR	
1,1,1,2-TETRACHLORO-2,2-DIFLUOROETHANE	ppm	500	500	2000	yes	yes	PA3OVAGHE, SAR	
1,1,1,2,2-TETRACHLORO-1,2-DIFLUOROETHANE	ppm	500	500	2000	yes	yes	PA3OVAGHE, SAR	
TETRACHLOROETHYLENE	ppm	100	25		yes	yes	PA3OVAGHE	
TETRACHLOROMETHANE	ppm	10	5		yes	yes	PA3OVAGHE, SAR	
TETRACHLORONAPHTHALENES, ALL ISOMERS	mg/m3	2	2		no	yes	PA3OVAGHE	
TETRAETHYL LEAD	mg/m3	0.075	0.1	40	yes	yes	PA3OVAGHE, SAR	
TETRAETHYL ORTHOSILICATE	ppm	100	10	700	yes	no	PA3OVAGHE	
TETRAHYDROFURAN	ppm	200	200	2000	yes	no	PA3OVAGHE	
TETRAMETHYL SUCCINONITRILE	ppm	0.5	0.5	5	no	no	PA3OVAGHE, SAR	
TETRASODIUM PYROPHOSPHATE	mg/m3		5		yes	yes		PA3HE
TETRYL	mg/m3	1.5	1.5	750	yes	yes		PA3HE
THALLIUM, SOLUBLE COMPOUNDS (AS TL)	mg/m3	0.1	0.1	15	no	no		PA3HE
4,4'-THIOBIS (6-tert-BUTYL-m-CRESOL)	mg/m3	R 5	10		no	no		PA3HE
THIOGLYCOLIC ACID	ppm		1		yes	yes	PA3OVAGHE, SAR	
THIONYL CHLORIDE	ppm		C 1		yes	yes	PA3NBC, SAR	
THIRAM (ISO)	mg/m3	5	1	100	yes	yes	PA3OVAGHE	
TIN COMPOUNDS, INORGANIC, EXCEPT SNH4 (AS SN)	mg/m3	2	2	100	yes	yes		PA3HE
TIN COMPOUNDS, ORGANIC, EXCEPT CYHEXATIN (ISO) (AS SN)	mg/m3	0.1	0.1	25	yes	yes	PA3OVAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
TITANIUM DIOXIDE	mg/m3	15	10		no	no		PA3HE
TOLUENE	ppm	200	50	500	yes	yes	PA3OVAGHE	
TOLUENE DIISOCYANATE	ppm	C 0.02	0.005		yes	yes	PA3OVAGHE, SAR	
O-TOLUIDINE	ppm	5	2		yes	yes	PA3OVAGHE, SAR	
TRIBROMOMETHANE	ppm	0.5	0.5	850	yes	yes	PA3OVAGHE	
TRIBUTYL PHOSPHATE, ALL ISOMERS	ppm	5	0.2	30	yes	yes	PA3OVAGHE	
TRICARBONYL(ETA-CYCLOPENTADIENYL)								
MANGANESE (AS MN)	mg/m3	5	0.1		no	yes	SAR	
TRICARBONYL(METHYLCYCLOPENTADIENYL)								
MANGANESE AS MN	mg/m3	5	0.2		yes	yes	SAR	
TRICHLOROACETIC ACID	mg/m3		1		yes	yes	PA3OVAGHE	
1,2,4-TRICHLOROENZENE	ppm		C 5		yes	yes	PA3OVAGHE	
1,1,1-TRICHLOROETHANE	ppm	350	350	700	yes	yes	PA3OVAGHE	
TRICHLOROETHYLENE	ppm	100	50		yes	yes	PA3OVAGHE	
TRICHLOROFLUOROMETHANE	ppm	1000	C 1000	2000	no	yes	SAR	
TRICHLOROMETHANE	ppm	50	10		yes	yes	PA3OVAGHE, SAR	
TRICHLORONITROMETHANE	ppm	0.1	0.1	2	yes	yes	PA3OVAGHE	
2,4,5-TRICHLOROPHOENOXACETIC ACID	mg/m3	10	10	250	no	yes		PA3HE
1,2,3-TRICHLOROPROPANE	ppm	50	10		yes	yes	PA3OVAGHE, SAR	
1,1,2-TRICHLOROTRIFLUOROETHANE	ppm	1000	1000	2000	no	yes	SAR	
TRI-o-CRESYL PHOSPHATE	mg/m3	0.1	0.1	40	no	no		PA3HE

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
TRICYCLOHEXYLTIN HYDROXIDE	mg/m3	0.32	5	80	yes	yes	PA3OVAGHE	
TRIDYMITE, RESPIRABLE DUST	mg/m3	0.05	R0.05		yes	no		PA3HE
TRIETHYLAMINE	ppm	25	1	200	yes	yes	PA3NBC	
TRIFLUOROBROMOMETHANE	ppm	1000	1000	40000	no	no	SAR	
TRIMANGANESE TETRAOXIDE	mg/m3	C 5			no	no		PA3HE
TRIMELLITIC ANHYDRIDE	mg/m3		C 0.04		yes	yes	PA3OVAGHE	
TRIMETHYLAMINE	ppm		5		yes	yes	PA3NBC	
TRIMETHYLBENZENES, ALL ISOMERS	ppm		25		no	no	PA3OVAGHE	
3,5,5-TRIMETHYLCYCLOHEX-2-ENONE	ppm	25	C 5	200	yes	yes	PA3OVAGHE	
TRIMETHYL PHOSPHITE	ppm		2		yes	yes	PA3OVAGHE	
2,4,6-TRINITROPHENOL	mg/m3	0.1	0.1	75	yes	yes		PA3HE
2,4,6-TRINITROTOLUENE	mg/m3	1.5	0.1	500	yes	yes	PA3OVAGHE	
TRIPHENYL PHOSPHATE	mg/m3	3	3	1000	no	no	PA3OVAGHE	
TUNGSTEN & INSOL. COMPOUNDS (AS W)	mg/m3		5		yes	yes		PA3HE
TURPENTINE	ppm	100	20	800	yes	yes	PA3OVAGHE	
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URANIUM COMPOUNDS, NATURAL, SOLUBLE (AS U)	mg/m3	0.25	0.2		yes	yes		PA3HE
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VANADIUM PENTOXIDE	mg/m3	C(R)0.5	0.05	35	yes	yes		PA3HE
VINYL ACETATE	ppm		10		yes	yes	PA3OVAGHE	
VINYL BENZENE	ppm	100	20	700	yes	yes	PA3OVAGHE	

Chemical Name	Unit of Measure	PEL (8 hour TWA)	TLV (8 hour TWA)	IDLH	Eye Irritant	Skin Irritant	Gas Cartridge	Particle Filter
VINYL CHLORIDE (CHLOROETHYLENE)	ppm	1	1		no	no	SAR	
VINYLDIENE CHLORIDE	ppm		5		yes	yes	PA30VAGHE, SAR	
VINYL TOLUENES, ALL ISOMERS	ppm	100	50	400	yes	yes	PA30VAGHE	
WARFARIN (ISO)	mg/m3	0.1	0.1	100	no	no		PA3HE
WELDING FUME	mg/m3		5		no	no		PA3HE
WOOD DUST (HARD WOOD)	mg/m3	R 5	1		yes	no		PA3HE
WOOD DUST (SOFT WOOD)	mg/m3	R 5	5		yes	no		PA3HE
XYLENE (ALL ISOMERS)	ppm	100	100		yes	yes	PA30VAGHE	
XYLIDINE, ALL ISOMERS	ppm	5	0.5	50	no	no	PA30VAGHE	
YTTRIUM	mg/m3	1	1	500	yes	no		PA3HE
ZINC CHLORIDE, FUME	mg/m3	1	1	50	yes	yes		PA3HE
ZINC CHROMATES (INC. ZINC POTASSIUM CHROMATE)	mg/m3	C0.1	0.01		no			PA3HE
ZINC DISTEARATE	mg/m3	R 5			yes	yes		PA3HE
ZINC OXIDE FUME	mg/m3	5	2	500	no	no		PA3HE
ZIRCONIUM COMPOUNDS (AS Zr)	mg/m3	5	5	50	no	yes		PA3HE

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