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breathing protection guide

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Definition of respiratory protection

Respiratory protection generally refers to the part of personal protective equipment (PPE) that protects the wearer from respiratory poisons and environmental pollutants. Respiratory protection is generally used in the field of occupational safety. Respiratory devices are subdivided into filtering devices and breathing apparatus. Filtering face masks filter out harmful substances from the air, while breathing apparatus provides the wearer with their own supply of oxygen independent from the ambient air. If the harmful substance is known about and there is sufficient oxygen in the ambient air (at least 17 % vol.), filtering face masks are sufficient to work with. Otherwise, breathing apparatus such as forced-air respirators or compressed air breathing apparatus must be used. Please note that when choosing and using the right respiratory protection, a detailed analysis is required of the workplace and the hazardous substances used there. You cannot make the choice based solely on the information provided here. Legislation and legal requirements must be adhered to.

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Legal notice

uvex assumes no liability for any damage that may result from the use of this respiratory protection guide, and particularly not for damage to health as a result of using the respiratory protection recommended by the guide. This respiratory protection guide cannot replace a risk assessment or purchase advice.

Standards

The **"D" symbol** on the disposable face masks indicates that they meet the additional requirement of standard EN 149, the dolomite clogging test. This test checks whether the mask maintains a good level of breathing resistance after being subjected to high levels of dolomite dust. This means the "D" symbol is a quality indicator for the filter material used and ensures that a mask can be worn over a long period even at high levels of dust concentration.

The **"R" symbol** on a disposable face mask stands for reusable in accordance with standard EN 149. The cleanability of the masks is tested, so that the masks can also be used in a second work shift. If the mask is cleanable, it features the symbol "R", otherwise the symbol "NR" non reusable. In addition, there are also different requirements for the different protection classes concerning the seal of the masks (leakage) and other additional requirements, such as the maximum permitted level of breathing resistance. The standard always defines the minimum requirements; all uvex products significantly exceed these minimum requirements, thereby ensuring optimal wearing comfort and safety.

Overview of applications

Activities

Wood working
Soft wood: Sanding and cutting
Hard wood (oak, beech, tropical wood): Sanding and cutting
Sanding/brushing off colour
Sanding/brushing off colour (paint containing chrome)
Water-soluble paint containing copper/chrome/arsenic
Construction and related industries
Cement work, plastering, tiling, roofing
Masonry: Cutting, drilling, demolition
Asbestos: Working with small amounts
Roof insulation, glass and mineral fibres
Putty/filler: sanding
Welding work
Stainless steel and aluminium welding
Hard soldering
Metalworking
Metal: Drilling, grinding, milling, angle grinding
High alloy steel/stainless steel: Drilling, grinding, milling, angle grinding
Disposal/Cleaning work
Waste sorting and disposal
Disposal of medical waste
Sweeping floors
Radioactive dust
Agriculture
Animal diseases/Handling sick animals
Handling mould spores
Handling hay, cereal, flour
Medicine/Care/Health
Allergies, pollen, house dust, pet hair
Bacteria, viruses, infections, Legionella

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Harmful substances	Protection class		
	FFP1	FFP2	FFP3
Fine particles, wood dust	■	■	
Fine particles, wood dust	■	■	■
Fine paint particles	■	■	
Fine paint particles	■	■	■
Fine paint particles	■	■	■
Cement/plaster/tile/brick dust	■	■	
	■	■	
Fibres	■	■	■
Dust and fibres	■	■	
Dust	■	■	
Metal and aluminium oxide smoke	■	■	■
Smoke	■	■	■
Metal dust	■	■	
Metal dust	■	■	■
Dust, fungi	■	■	
Bacteria, spores	■	■	■
Dust (not toxic)	■	■	
Dust	■	■	■
Bacteria, viruses	■	■	■
Spores	■	■	■
Dust	■	■	
Dust, particles, spores	■	■	
Bacteria, viruses	■	■	■

Period of use

Single use face masks are primarily suited for use in one shift – in other words a service life of eight hours. However, for special activities with toxic hazardous substances the masks can only be used once. This means that each time the mask is taken off, a new one must be used (for example, when working with carcinogenic substances). For sanitary reasons, single-use face masks should only be worn for one day by one person. Only masks with the "R" symbol can be hygienically cleaned with the special uvex cleaning spray, meaning they can be used for a second shift.
When you use a mask, it gradually absorbs more and more particles, so the filter material becomes clogged over time. This continuously increases the breathing resistance of the mask. When there are high particle concentrations in the environment it may therefore also be necessary to use several masks in a day, as the masks quickly become clogged and the breathing resistance deteriorates.

Filter types

uvex particle masks:
All uvex particle-filtering half masks are certified in accordance with the standard EN 149:2001 + A1:2009.

FFP1

Protects against non-toxic fine dust up to 4 times the limit value. All FFP1 masks are identified by the blue lettering on the valve and the imprint on the mask.

FFP2

Protects against low toxic fine dust up to 10 times the limit value. All FFP2 masks are identified by the orange lettering on the valve and the imprint on the mask.

FFP3

Protects against toxic fine dust up to 30 times the limit value. All FFP3 masks are identified by the black lettering on the valve and the imprint on the mask.

Classification of gas filters

The gas filters and their fields of application are identified by different colours and letters.

A

Protects against gas and smoke, e.g. solvents such as turpentine, nitrocellulose thinner, petrol, tetrachloroethylene, toluene, xylene, with a boiling point > 65°C
Colour code: brown

B

Protects against inorganic gas and smoke, such as chlorine, bromine, hydrogen sulphide, etc.
Colour code: grey

E

Protects against acid gas and smoke, such as sulphur dioxide, hydrogen chloride, etc.
Colour code: yellow

K

Protects against ammonia and organic amines such as dimethylamine, etc.
Colour code: green

AX

Protects against low-boiling organic compounds with a boiling point ≤ 5°C.
Colour code: brown

Hg

Protects against mercury
Colour code: red


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Mask range

It is essential for the safety of the wearer to choose the right respiratory devices, a great deal of care should be taken in the decision. In order to choose the right filtering face masks, make sure you take note of each of the following points:

1. The type, composition and concentration of the hazardous substances must be determined or already known (take note of the CAS number)
2. What occupational exposure limits apply to the hazardous substances present?
3. The working conditions at the workplace must be determined or already known.
4. There must be sufficient oxygen in the environment (please take note of the applicable legal requirements, in Germany this is at least 17 % vol.).
5. In what state do the hazardous substances manifest: as gas, particles or a mixture?
6. What warning properties do the hazardous substances have (smell, taste, etc.)?
7. What additional personal protective equipment is necessary (e.g. safety spectacles, chemical protection suits, gloves)?

After consideration of these seven points, the necessary nominal protection factor (NPF) must be decided using the following formula:

Protection factor = harmful substance concentration / OEL
(OEL = An occupational limit is an upper limit on the acceptable concentration of a hazardous substance in workplace air for a particular material or class of materials.)

After determining the NPF, the appropriate mask can be selected:

- **FFP1** masks for up to a maximum 4 times the protection factor
- **FFP2** masks for up to a maximum 10 times the protection factor
- **FFP3** masks for up to a maximum 30 times the protection factor

These values apply for Germany and may vary depending on the national regulations.
uvex preformed and folding masks are particularly well-suited for use in combination with uvex safety spectacles.
You can find more information about respiratory protection on **ures.uvex.de/en**

Hazardous substances

Substance name	CAS no.	Limit value ml/m³
Acetaldehyde	75-07-0	50
Acetic acid	64-19-7	10
Acetone	67-64-1	500
Acetonitrile	75-05-8	20
Acid gas		
Acrolein	107-02-8	0,09
Acrylamide	79-06-1	
Acrylic acid	79-10-7	10
Acrylonitrile	107-13-1	
Aluminium	7429-90-5	
Aluminium chloride		
Aluminium oxide (no fibres)	1302-74-5	
Aluminium oxide smoke (welding)		
Amine (C7-C9 aliph.)		
2-Aminobutane, see Butylamine		
Ammonia	7664-41-7	20
Ammonium chloride		
Ammonium hydroxide, see ammonia		
Aniline	62-53-3	2
Antimony	7440-36-0	
Arsenic trioxide (arsenic)		
Arsenous acid		
Arsenous acid salts		
Arsine	7784-42-1	
Artificial mineral fibres		
Asbestos up to 100,000 F/m³	1332-21-4	
Asbestos up to 100,000 up to 300,000 F/m³		
Ash		
Atrazine	1912-24-9	
Bacteria risk group 2		
Bacteria risk group 3		
Barium compound, sol.		
Benzene	71-43-2	0,06
Benzoic acid		
Benzo(a)pyrene	50-32-8	
Benzyl chloride, see a-chlorotoluene		
Beryllium	7440-41-7	
Biological agents risk group 2		
Biphenyl	92-52-4	

Limit value mg/m³	State	Filter type	uvex Face masks
91	liquid	AX	
25	liquid	E (A, B)	on request
1200	liquid	AX	
34	liquid	A	on request
	gas	E	on request
0,2	liquid	AX	
0,07	solid	A/P3	on request
30	liquid	A	on request
0,26	liquid	A	on request
1,25	solid	P1	all P1 masks
	solid	P2	all P2 masks
1,25	solid	P1	all P1 masks
	solid	P2/P3	all P2/P3 masks
	liquid	A,K	on request
	liquid	AX	
14	gas/liquid	K	on request
	solid	P2	all P2 masks
		K	on request
7,7	liquid	A	on request
	solid	P3	all P3 masks
	solid	P3	all P3 masks
0,1	solid	P3	all P3 masks
0,1	solid	P3	all P3 masks
	gas	B (P3)	
	solid	P3	all P3 masks
	solid	P2/3	all P2/P3 masks
	solid	P3 VM	all P3 VM masks
	solid	P2	all P2 masks
1	solid	P2	all P2 masks
		P2	all P2 masks
		P3	all P3 masks
0,5	solid	P2	all P2 masks
0,2	liquid	A	on request
	solid	P2	all P2 masks
70	solid	P3	all P3 masks
		B, A (P3)	on request
0,005	solid	P3	all P3 masks
	solid	P2	all P2 masks
	solid	AP3	on request

Hazardous substances

Substance name	CAS no.	Limit value ml/m³
Bitumen, smoke/aerosols	8052-42-4	
Boric acid	10043-35-3	
Brass		
Bromine	7726-95-6	
1,3-Butadiene	106-99-0	0,2
Butane	106-97-8	1000
Butanol		100
Butanone	78-93-3	200
2-Butoxyethanol	111-76-2	10
2-Butoxyethyl acetate	112-07-2	20
Butyl acetate		62
Butylamine	141-32-2	2
Cadmium and compounds	744-43-9	
Calcium carbonate		
Calcium hydroxide	1305-62-0	
Calcium oxide	1305-78-8	
Calcium sulphate	7778-18-9	
Carbon dioxide	124-38-9	5000
Carbon disulphide		
Carbon disulphide	75-15-0	10
Carbon fibres		
Carbon monoxide	630-08-0	30
Caustic alkali		
Cement		
Chlorine	7782-50-5	0,5
Chloroacetic acid	79-11-8	1
Chlorobenzene	108-90-7	10
2-Chlorobuta-1,3-diene	126-99-8	
1-chloro-2,3-epoxypropane	106-89-8	0,6
Chloroform, see trichloromethane		
3-Chloropropene	107-05-1	
a-Chlorotoluene	100-44-7	
Chromium		
Cobalt		
Compound in respirable droplets		
Concrete (spraying)		
Copper	7440-50-8	
Corundum (aluminium oxide)		
Cotton dust		

Limit value mg/m³	State	Filter type	uvex Face masks
	solid/gas	AP3	on request
0,5	solid	P2	all P2 masks
	solid	P2/P3	all P2/P3 masks
0,7	liquid	B	on request
0,5	gas	AX	
2400	gas	AX	
310	liquid	A	on request
600	liquid	A	on request
49	liquid	A	on request
130	liquid	A	on request
300	liquid	A	on request
6,1	liquid	A	on request
0,03	solid	P3	all P3 masks
	solid	P1	all P1 masks
1	solid	P2	all P2 masks
1	solid	P2	all P2 masks
6	solid	P2	all P2 masks
9100	gas	UU	
		B	on request
30	liquid	B	on request
	solid	P2	all P2 masks
35	gas	CO	
	solid/liquid	P2	all P2 masks
	solid	P2	all P2 masks
1,5	gas	B	on request
4	liquid	E	on request
47	liquid	A	on request
	liquid	AX	
2,3	liquid	A	on request
		AX	
	liquid	AX	
	liquid	B, A (P3)	on request
0,05	solid	P3	all P3 masks
0,1	solid	P3	all P3 masks
0,05		P3	all P3 masks
		P2	all P2 masks
0,01	solid	P2	all P2 masks
1,25	solid	P1	all P1 masks
1,5	solid	P2	all P2 masks

Hazardous substances

Substance name	CAS no.	Limit value ml/m³
Coxiella burnetii		
Cresol	1319-77-3	
Cristobalite, see quartz		
Cumene	98-82-8	20
Cutting fluids		
Cyanamide	420-04-2	0,2
Cyanide		
Cyclohexane	110-82-7	200
Cyclohexanol	108-93-0	
Cyclohexanone	108-94-1	20
Cyclohexylamine	108-91-8	2
Cytostatics		
2,4-D	94-75-7	
Decomposition products from plastics		
Demeton	8065-48-3	0,01
Diacetone alcohol	123-42-2	20
Diazinon	333-41-5	
Dibenzodioxin		
1,2 Dichlorobenzene	95-50-1	10
1,1-Dichloroethene	75-35-4	2
1,2-Dichloroethene	540-59-0	200
Dichloromethane	75-09-2	75
Dichlorvos	62-73-7	0,11
Dichromate		
Diesel engine emissions		
Diesel fuel		
Diethyl ether	60-29-7	400
Diethylamine	109-89-7	5
Diisopropyl ether	108-20-3	200
Dimethoxymethane	109-87-5	1000
Dimethylamine	124-40-3	2
3,3-Dimethylbenzidine	119-93-7	0,003
Dimethylformamide	68-12-2	5
Dimethylnitrosamine	62-75-9	
Dimethyl sulphate	77-78-1	0,02
1,4-Dioxane	123-91-1	20
Dipropylene glycol monomethyl ether	34590-94-8	50
Disulfiram	97-77-8	
Disulphur dichloride	10025-67-9	

Limit value mg/m³	State	Filter type	uvex Face masks
	solid	P3	all P3 masks
	liquid	A	on request
	solid	P3	all P3 masks
100	liquid	A	on request
	liquid	P2	all P2 masks
0,35	solid	BP2	on request
2	solid	P2	all P2 masks
700	liquid	A	on request
	liquid	A	on request
80	liquid	A	on request
8,2	liquid	A,K	
	solid	P3	all P3 masks
2	solid	P2/3	all P2/P3 masks
	solid/gas	ABEP3	on request
0,1	liquid	AP2	
96	liquid	A	on request
0,1	liquid	P3	all P3 masks
		P3	all P3 masks
61	liquid	A	on request
8	liquid	AX	
800	liquid	AX	
260	liquid	AX	
1	liquid	AP2	on request
		P3	all P3 masks
0,3	solid	P3	all P3 masks
	liquid	A	on request
1200	liquid	AX	
15	liquid	AX, K	
850	liquid	A	on request
3200	liquid	AX	
3,7	gas	K	on request
0,03	solid	(A) P3	on request
15	liquid	A	on request
0,001	liquid	A (B) (P3)	on request
0,1	liquid	A (P3)	on request
73	liquid	A	on request
310	liquid	A	on request
2	solid	P2	all P2 masks
	liquid	B	on request

Hazardous substances

Substance name	CAS no.	Limit value ml/m³
Enzyme		
Epichlorohydrin, see chloroexpropane	106-89-8	
2,3-Epoxy-1-propanol	556-52-5	
Epoxy resin		
Ethanol	64-17-5	500
2-Ethoxyethanol (Cellosolve)	110-80-5	2
2-Ethoxyethyl acetate	111-15-9	2
Ethyl acetate	141-78-6	400
Ethyl acrylate	140-88-5	5
Ethylamine	75-04-7	5
Ethylbenzene	100-41-4	20
Ethylene glycol	107-21-1	10
Ethyl formate	109-94-4	100
Fibre dust, anorganic		
Fibre glass		
Flour dust		
Fluoride		
Fluorine	7782-41-4	1
Formaldehyde, formalin	50-00-0	0,3
Formamide		
Formic acid	64-18-6	5
Fuel (petrol)		
Fungal spores (risk group 2)		
Glutaraldehyde	111-30-8	0,05
Graphite	7782	
Gypsum, see calcium sulphate		
Halogen		
Halothan	151-67-7	5
Heptane	142-82-5	500
Hexachlorocyclohexane	319-84-6	
Hexane	110-54-3	50
Hexane isomers		500
House dust (mites)		
Hydrazine	302-01-2	0,1
Hydrocarbons (PAK)		
Hydrochloric acid, see hydrogen chloride		
Hydrogen bromide	10035-10-6	2
Hydrogen chloride	7647-01-0	2
Hydrogen cyanide	74-90-8	1,9

Limit value mg/m³	State	Filter type	uvex Face masks
	solid	P3	all P3 masks
	liquid	A	on request
	liquid	A	on request
	liquid	A	on request
960	liquid	A	on request
7,6	liquid	A	on request
10,8	liquid	A	on request
1500	liquid	A	on request
21	liquid	A	on request
9,4	gas	K	on request
88	liquid	A	on request
26	liquid	AP2	on request
310	liquid	AX	
		P2	all P2 masks
	solid	P2	all P2 masks
	solid	P1/P2	all P1/P2 masks
1	solid	P2	all P2 masks
1,6	gas	B	on request
0,37	gas	Spezial	
	liquid	A	on request
9,5	liquid	E, B	
	liquid	A	on request
	solid	P2	all P2 masks
0,2	liquid	AP2	on request
1,325	solid	P1	all P1 masks
	solid	P2	all P2 masks
		B	on request
41	liquid	AX	
2100	liquid	A	on request
0,5	solid	AP2	on request
180	liquid	A	on request
1800	liquid	AX	
	solid	P	all P1 masks
0,13	liquid	K	on request
	liquid/solid	A/P3	on request
	gas/liquid	E	on request
6,7	gas/liquid	E	on request
3	gas	E	on request
2,1	liquid	B	on request

Hazardous substances

Substance name	CAS no.	Limit value ml/m³
Hydrogen fluoride, hydrofluoric acid	7664-39-3	1
Hydrogen peroxide	7722-84-1	0,5
Hydrogen sulphide	7783-06-4	5
Insecticides		
Iodine	7553-56-2	
Iron dust		
Iron oxide		
Isoamyl alcohol	123-51-3	20
Isocyanate, see diisocyanate		
Isophorone	78-59-1	2
Isopropanol	67-63-0	200
Lead and compounds	7439-92-1	
Lead chromate	7758-97-6	
Lead smoke		
Low boilers gr. 1/2		
Magnesium oxide	1309-48-4	
Magnesium smoke		
Maleic anhydride	108-31-6	0,1
Manganese and compounds		
Marble		
Mercaptan		
Mercury	7439-97-6	
Methane		
Methanol	67-56-1	200
3-Methoxybutyl acetate	4435-53-4	
Methoxyethanol Me-Glycol	109-84-4	1
1-Methoxy-2-propanyl acetate	108-65-6	50
Methyl acrylate	96-33-3	5
Methyl ethyl ketone (MEK), see butanone	78-93-3	200
Methyl isobutyl ketone (MIBK)	108-10-1	20
Methylamine	74-89-5	10
Methylated spirit		
Methylcyclohexanol	25639-42-3	6
Minium (lead oxide)		
Molybdenum and compounds		
Multi-drug resistant tuberculosis (TB)		
Nanoparticles		
Naphthalene	91-20-3	0,1
Nickel		

Limit value mg/m³	State	Filter type	uvex Face masks
0,83	gas/liquid	E, B	on request
0,71	liquid	NO, B	on request
7,1	gas	B	on request
	solid/liquid	AP2/3	on request
	solid	BP2	on request
1,25	solid	P2	all P2 mask
1,25	solid	P2	all P2 masks
73	liquid	A	on request
		B (A) P3	on request
11	liquid	A (P2)	on request
500	liquid	A	on request
	solid	P3	all P3 masks
	solid	P3	all P3 masks
	solid	P3	all P3 masks
		AX	
3	solid	P1	all P1 masks
		P2	all P2 masks
0,41	solid	AP2	on request
0,5	solid	P2	all P2 masks
	solid	P1	all P1 masks
		B	on request
0,02	liquid	Hg	
	gas	UU	
270	liquid	AX	
	liquid	A	on request
3,2	liquid	A	on request
270	liquid	A	on request
18	liquid	A	on request
600	liquid	A	on request
83	liquid	A	on request
13	gas	K	on request
	liquid	A	on request
28	liquid	A	on request
	solid/liquid	P2	all P2 masks
	solid	P2	all P2 masks
	solid/liquid	P3	all P3 masks
	solid	P3	all P3 masks
0,5	solid (gas)	AP3	on request
0,5	solid	P2	all P2 masks

Hazardous substances

Substance name	CAS no.	Limit value ml/m³
Nitric acid	7697-37-2	1
Nitro compounds (organic)		
Nitro thinner		
Nitrogen oxide (see nitrous gases)		
N-Nitrosamine		
Octane		500
Organic smoke		
Oxalic acid	144-62-7	
Ozone	10028-15-6	
Paint splashes		
Parathion (E605)	56-38-2	
Perchloroethylene, see tetrachloroethylene		
Peracetic acid	79-21-0	
Pet hair		
Petrol		
Petroleum		
Petroleum distillate		
Petroleum naphtha		
Phenol	108-95-2	2
Phenylhydrazine	100-63-0	
Phosgene	75-44-5	0,1
Phosgene, carbonyl dichloride	75-44-5	0,1
Phosphorated hydrogen, (phosphine)	7803-51-2	0,1
Phosphorus pentoxide	1314-56-3	
Phosphorus trichloride	7719-12-2	0,5
Pollen		
Polychlorinated biphenyl		
Polyvinyl chloride (PVC)	9002-86-2	
Potassium hydroxide, caustic potash		
2-Propanol (Isopropanol)	67-63-0	200
Propionic acid	201-176-3	10
Prussic acid, see hydrogen cyanide		
Pyridine	110-86-1	
Quartz		
Risk group 3		
Rust		
Silica gas		
Silicic acid		
Silicon carbide	409-21-2	

Limit value mg/m³	State	Filter type	uvex Face masks
2,6	liquid	B, NO	on request
	liquid	A	on request
	liquid	A	on request
	gas	NO	
0,01	solid (gas)	(A) P3	on request
2400	liquid	A	on request
	liquid	A	on request
1	solid	P2	all P2 masks
	gas	NO (A;B)	on request
		AP2	on request
0,1	liquid	(A) P2/3	on request
			on request
	liquid	E, B (P3)	
	solid	P1	all P1 masks
	liquid	A	on request
	liquid	A	on request
	liquid	A	on request
	liquid	A	on request
8	solid (gas)	A (P2)	on request
	solid/liquid	AP3	on request
0,41	gas	B	on request
0,41	gas	B	
0,14	gas	B	
2	solid	P2	all P2 masks
2,8	liquid	B, E (P2)	on request
	solid	P2	all P3 masks
	liquid	AP3	on request
1,25	solid	P2	all P2 masks
	solid/liquid	P2	all P2 masks
500	liquid	A	
31	liquid	A (ABE)	on request
		B	on request
	liquid	A	on request
	solid	P3	all P3 masks
	solid	P3	all P3 masks
	solid	P1	all P1 masks
0,3	solid	P2	all P2 masks
4	solid	P2	all P2 masks
	solid	P2	all P2 masks

Hazardous substances

Substance name	CAS no.	Limit value ml/m³
Silver compounds		
Smoke		
Sodium azide	247-852-1	
Sodium hydroxide, caustic soda	1310-73-2	
Sodium hypochlorite		
Solvent mixture		
Soot		
Stainless steel, smoke, fine dust		
Stibine	7803-52-3	
Stone dust (containing quartz)		
Styrene	100-42-5	20
Sulphur dioxide	7446-09-5	1
Sulphuric acid	7664-93-9	
Talc		
Tellurium and compounds		
1,1,2,2-Tetrachloro-1,2-difluoroethane (R 112)	76-12-0	200
1,1,2,2-Tetrachloroethane	79-34-5	1
Tetrachloroethylene	127-18-4	20
Tetrachloromethane	56-23-5	0,5
Tetrahydrofuran (THF)	109-99-9	50
Thiram	137-26-8	
Tin compounds, org.		
Tin, tin compounds, inorg.		
Titanium dioxide		
Tobacco dust		
Tobacco smoke		
o-Toluidine	95-53-4	
Toluene	108-88-3	50
1,1,1-Trichloroethane	71-55-6	200
1,1,2-Trichloroethane	79-00-5	10
Trichloroethylene (Tri)	79-01-6	
Trichloromethane, see chloroform		0,5
Triethylamine	121-44-8	1
Trimethylbenzenes (all isomers)		20
Tri-n-butyltin compounds (TBTO)		0,0018
Turpentine	8006-64-2	
Uranium compounds		
Vanadium pentoxide	1314-62-1	
Vinyl acetate	108-05-4	5

Limit value mg/m³	State	Filter type	uvex Face masks
0,01	solid	P3	all P3 masks
	solid/gas	P2/(BP3)	on request
0,2	solid	P2	all P2 masks
	solid/liquid	P2	all P2 masks
	solid (gas)	P (B)	on request
		A	on request
	solid	P2	all P2 masks
	solid	P3	all P3 masks
	gas	B	
	solid	P2	all P2 masks
86	liquid	A	on request
2,5	gas	E	on request
0,1	liquid	P	
	solid	P2	all P2 masks
	solid	P3	all P3 masks
1700	liquid	A	on request
7	liquid	A	on request
138	liquid	A	on request
3,2	liquid	A	on request
150	liquid	A	on request
1	solid	P2	all P2 masks
		AP3	on request
	solid (liquid)	P2 (B)	on request
1,25	solid	P1	all P1 masks
	solid	P2	all P2 masks
	solid (gas)	P3 (ABE)	on request
0,5	liquid	A	on request
190	liquid	A	on request
1100	liquid	A	on request
55	liquid	A	on request
	liquid	A	on request
2,5	liquid	AX	
4,2	liquid	A (K)	
100	liquid	A	on request
0,009	liquid	(A) P3	on request
	liquid	A	on request
	solid	P3	all P3 masks
	solid	P3	all P3 masks
18	liquid	A	on request

Hazardous substances

Substance name	CAS no.	Limit value ml/m³
Vinyl chloride	75-01-4	2
Virus risk group 2		
Virus risk group 3		
Welding fumes		
Wood dust		
Xylene (all isomers)	1330-20-7	100
2,4-Xylidine	95-68-1	5
Zinc oxide smoke	1314-13-2	

Limit value mg/m³	State	Filter type	uvex Face masks
5	gas	AX	
		P2	all P2 masks
		P3	all P3 masks
1,25	solid	P3	all P3 masks
	solid	P2	all P2 masks
440	liquid	A	on request
25	liquid	A	on request
0,1	solid	P2	all P2 masks

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