

CleanAIR®

by **maXisafe.**

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FILTER *guide*

NA-075-R00

CleanAIR® by **maXisafe.**

CleanAIR® - Filter Selection Guide

This brochure aims to introduce you the most important factors you should bear in mind when choosing the proper filter. At the same time will help you to select the appropriate RPE (Respiratory Protective Equipment) based on the knowledge of NPF (Nominal Protection Factor) and WELs (Workplace Exposure Limits).

Please note, the information given by this brochure is intended only as a guide and thus the responsibility for correct filter selection remains with health and safety professionals at the workplace.

This guide should only be used in conjunction with general occupational hygiene knowledge.

IDENTIFICATION OF HAZARD / FILTER TYPES

Hazardous substances can be present in the air as particles (solid or liquid), vapour or gas. Under certain conditions, they can exist in more than one form at the same time (e.g. during paint spraying).

You need to identify the form of the substance in the air to select proper filter.

Form	Properties	Examples
Particulate contaminants	Solid particles: Particles of solid material, including aerosols, dusts, fibres, smokes and fumes	Asbestos fibres Engine exhaust particles and fume Lead dust and fume Stone and wooden dust Welding fume, smoke, fungal spores, viruses, flour and pollen
	Liquid particles: Fine sprays, mists and aerosols made up of small droplets of liquid	Sprayed liquids: Paints Pesticides Mists: Chrome acid Cutting fluids Oil mist
Gaseous contaminants	Vapours: Gaseous form of solids or liquids	Solvent vapour, mercury vapour, etc.
	Gases	Hydrogen cyanide, chlorine Engine exhaust gases Sewer gases Carbon monooxide, carbon dioxide

Three filter types available:

- Particle filters - additionally marked „R“ or „NR“ (reusable or non-reusable)
- Gas / vapour filters
- Combined filters

PARTICLE FILTERS - Particle filters trap and hold particles (solid and liquid aerosols including dust, mist, smoke, microorganisms) from the air flowing through. Particle filters are classified according to their efficiency and are marked with letter „P“ followed with a number indicating efficiency, or the level of protection provided.

Particle filter classification according to EN 143

Class	Efficiency (%)	NPF	Maximum permitted penetration		Assigned protection factor*		
			NaCl	Paraffin oil	D	FIN	UK
P1	Low (80,00%)	5	20 %	20 %	4	4	4
P2	Medium (94,00%)	16	6 %	6 %	15	15	10
P3	High (99,95%)	2 000	0,05 %	0,05 %	500	400	40

** The value of assigned protection factor is taken from EN 529 and it is meant for combination with full face mask. Please note that the assigned protection factor may vary from country to country and you should always follow your local legislation.*

There are also filters certified dependently on a PAPR only (e.g. CleanAIR® AerGO®, D-Bug, Asbest, Basic EVO and Basic 2000) according to EN 12 941 and are marked “P R SL” instead of P3. All the currently manufactured CleanAIR® filters provide better efficiency than 99,95 %.

GAS / VAPOUR FILTERS - These filters are designed to remove gases or vapours as specified by the manufacturer. Gas / vapour filters are classified according to their capacity and the type of substance(s) they can be used against to. Their capacity refers to how much of the specified contaminant they can sorb (as measured in a laboratory test at set conditions). In general we can say, that gas filters of Class 2 may be used at higher concentrations or for a longer time than class 1 filters.

COMBINED FILTERS - Combined filters provide protection against both hazardous gases and vapours as well as particles.

Gas / combined filter capacity requirements

	EN 14 387 negative pressure respirators			EN 12 941, EN 12 942 powered air purifying respirators		
	Class 1	Class 2	Class 3	Class 1	Class 2	Class 3
Classification	Class 1	Class 2	Class 3	Class 1	Class 2	Class 3
Capacity	LOW	MED	HIGH	LOW	MED	HIGH
Concentration of the test gas	0,1 %	0,5 %	1,0 %	0,05 %	0,1 %	0,5 %

Filter type	Test gas	Minimum breakthrough time			Minimum breakthrough time		
A	Cyclohexane C6H6	70 min	35 min	65 min	70 min	70 min	35 min
B	Chlorine Cl2	20 min	20 min	30 min	20 min	20 min	30 min
	Hydrogen sulphide H2S	40 min	40 min	60 min	40 min	40 min	40 min
	Hydrogen cyanide HCN	25 min	25 min	35 min	25 min	25 min	35 min
E	Sulphur dioxide SO2	20 min	20 min	30 min	20 min	20 min	20 min
K	Ammonia NH3	50 min	40 min	60 min	50 min	50 min	40 min

Special filters

Filter type	Test gas	Test gas concentration	Minimum allowed breakthrough time
AX	Dimethyl ether	0,05 v%	50 min
	Isobutane	0,25 v%	50 min
Hg-P3	Mercury, Hg vapour	1,6 ml/mg	100 hours
NOP	NO, NO ₂	0,25 v%	20 min

CAUTION!

- Particle filters do not protect against gas or vapour
- Gas / vapour filters do not protect against particles
- Neither filter type can be used in oxygen-deficient atmospheres
- Note that particle filters are not effective against mist or spray of organic solvents

HOW LONG DOES THE FILTER LAST?

The service life of a filter depends on its size (active surface of particle filter media and/or volume of charcoal), conditions of use and following factors:

- Type, characteristics and concentration of the contaminants
- Breathing volume and work rate
- Air humidity
- Temperature

The minimum breakthrough times given are intended only for laboratory tests under standardized conditions. They do not give an indication of the possible service time of the filter in practical use. Possible service times can differ from the breakthrough times determined according to this document in both directions, positive and negative depending on the conditions of use.

The end of service life can be recognized by

Particle filter - Increased breathing resistance of the filter. Drop of the air flow, or triggering the „low airflow“ alarm when used in combination with PAPR.

Gas filters - *A noticable taste or smell of the contaminant.

Combined filters - *A noticable taste or smell of the contaminant and/or increased breathing resistance of the filter. A noticable taste or smell of the contaminant and/or drop of the air flow, or triggering the „low airflow“ alarm when used in combination with PAPR.

* Does not apply when the contaminant does have low warning properties

HOW TO SELECT PROPER RPE ACCORDING TO NPF?

1. **You need to know the concentration of the hazardous substance in a workplace**
2. **You need to know assigned Workplace Exposure Limit (WEL) – see the main table. The WELs listed in this guide are taken from HSE publication EH40/2005 Workplace Exposure Limits**

WELs (Workplace Exposure Limits)

WELs are occupational exposure limits (concentrations) of a specific airborne substance averaged over a reference period, to which workers may be exposed without experiencing significant adverse health effects. There are two reference periods for which the WELs may be set: 8-hour Time Weighted Average (TWA) and 15-minute Short Term Exposure Limit (STEL). If there are two values in the long term WEL, the first value is meant to the substance name before the slash and the second number behind the slash.

TWA (Time Weighted Average) – 8 hours (long term)

TWAs are set to help preventing health effects which require prolonged or accumulated exposure.

STEL (Short Term Exposure Limit) – 15 minutes (short term)

STELs are set to help prevents health effects which may be seen after short exposure (e.g. eye irritation that could occur after a few minutes)

The absence of a substance from the list of WELs does not indicate that it is safe. For these substances, exposure should be controlled to a level to which nearly all the working population could be exposed, day after day at work, without any adverse effects on health.

3. **You need to determine the needed minimum protection factor of RPE**

For example: Powered air purifying respirator incorporating a hood classified as TH3 according to EN 12 941 has a maximum inward leakage of 0,2 %. Therefore NPF= 100 (%) : 0,2 (%)= 500.

Minimum protection factor

=

Concentration at the workplace

WEL

=

100

2,5

=

40

Example:

Contaminant:	Acetic anhydride (gas protection needed)
Concentration at the workplace	100 mg / m³
WEL	2,5 mg / m³

Nominal protection factor (NPF)

Theoretical level of protection of Respiratory Protective Equipment calculated using performance data measured in the laboratory. It indicates the mathematically calculated maximum breathing protection performance. Calculated by dividing 100 by the total value of maximum inward leakage as specified in the relevant standard.

Table: List of respiratory protective devices
Nominal protection factors (NPF) and assigned protection factors used in different countries

Description / Device	Class	NPF	Assigned Protection Factors (used in some countries)				
			FIN	D	I	S	UK
Filter half mask EN 149	FF P1	4	4	4	4	4	4
	FF P2	12	10	10	10	10	10
	FF P3	50	20	20	20	20	20
Half mask and quarter mask with filter EN 140 Filters EN 141; EN 372 EN 143; EN 14 387 EN 371; EN 12 083	P1	4	4	4	4	4	4
	P2	12	10	10	10	10	10
	P3	48		30	30		20
	GasX	50	20	30	30	20	30
	GasX P1	4					
	GasX P2	12					
	GasX P3	48		30			10
Full face mask (all classes) EN 136 Filters EN 141; EN 372 EN 143; EN 14 387 EN 371; EN 12 083	P1	5	4	4	4	4	4
	P2	16	15	15	15	15	15
	P3	2000	500	400	400	500	40
	GasX	2000	500	400	400	500	40
	GasX P1	5					
	GasX P2	16					
	GasX P3	2000		400			20
PAPR with helmet or hood EN 12 941	TH1	10	5	5	5	5	5
	TH2	50	20	20	20	20	20
	TH3	500	200	100	200	200	40
PAPR with quarter/half or full face mask (power on) EN 12 942	TM1	20	10	10	10	10	10
	TM2	200	100	100	100	100	20
	TM3	2000	1000	500	400	1000	40
Continuous flow compressed airline breathing apparatus EN 14 594	1A / 1B	10					
	2A / 2B	50					
	3A / 3B	200					
	4A / 4B	2000					

WHAT IS THE MAXIMUM CONCENTRATION OF THE CONTAMINANT FOR WHICH I CAN USE RESPIRATORY PROTECTION?

You can determine the maximum permissible concentration by multiplying the nominal protection factor (as found in the NPF table) by the Workplace Exposure Limit

CAUTION!
In the case where the contaminants are present in both particle and gas form, the necessary NPF must be established for each one separately and the higher protection factor must be applied.

The concentration of gases is measured in ppm (parts per million = volume of the substance within 1 m³ of air) or mg/m³ (= weight of the substance within 1 m³ of air) and the concentration of particles (dust) only in mg/m³.

While mg/m³ deals with weight and ppm with volume, there is no direct calculation for mg/m³ to ppm. Higher concentrations are often indicated in % by volume, 10 000 ppm = 1 vol. %.

GENERAL LIMITATIONS FOR USE OF FILTERING RPD

- Do not use in the following environments or situations:**
- Oxygen deficient atmosphere, i.e. < 17 %.
(CleanAIR® definition. Individual countries may apply their own limits on oxygen deficiency)
 - Oxygen only or oxygen-enriched atmosphere.
 - In atmospheres where the concentrations of the toxic contaminants (type, properties, concentration and composition of the hazardous agent) are unknown.
 - Concentrations of contaminants are immediately dangerous to life or health (IDLH).
 - In poorly ventilated areas or confined spaces, such as containers, tanks, small rooms, tunnels, or vessels.
 - Atmosphere with mixed chemical substances (except for multi-gas filter, e.g. ABEK filter).
 - Filters that show signs of damage.
 - Gases, vapours and particles which cannot be removed by filter.

CAUTION!
The hazards in your environment must be known, as well as the work requirements and the external conditions. Additionally you must take into consideration the protection level required by your respirator – as well as the type and protection level of the necessary filter.

- Immediately leave the area if:**
- breathing resistance increases noticeably
 - you began to feel dizzy
 - you smell, taste, or become irritated by the contaminant
 - your respirator is damaged

- Make sure that:**
- the selected respirator fits properly
 - if both gases and particles are present, that you use a combined filter, to filter out both gases and particles.

- Special filters limitation**
- AX filters are for single shift use only.
 - CO filters for one time use only. Must be disposed after use.
Special guidelines according to local regulations apply.
 - Hg filters can only be used for a maximum of 50 hours.
 - NO filters for single shift use only. Must be disposed after use.
 - Reactor filters: apply special guidelines according to local regulations.

All information contained in the document have been compiled using reasonable skill and diligence and is offered in good faith, but CleanAIR® can accept no responsibility for any errors or omissions contained in this guide. The document was prepared in December 2018 and is a subject to change without prior notice. For more information please contact our sales department by email: export@malina-safety.cz, or on our website www.clean-air.cz.

List of Shortcuts used in the Main Table

APF	Assigned Protection Factor is the level of protection a respirator can be expected to provide if it is functioning properly and the user is wearing it correctly. APF is scored via a number, allowing users to gage how much contaminant they are expected to inhale while wearing the respirator.
Carc.	Carcinogenic
CNS	Central Nervous System
EN	European Standard
IDLH	Immediately Dangerous to Life and Health as exposure to airborne contaminants that is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from such an environment.
NPF	Nominal Protection Factor this level of protection is unlikely to be achieved in real use situations, since the testing is carried out in a laboratory situation and does not give a good estimate of the effectiveness of the respirator
OEL	Occupational Exposure Limits (EU) is an upper limit on the acceptable concentration of a hazardous substance in workplace air for a particular material or class of materials. It is typically set by competent national authorities and enforced by legislation to protect occupational safety and health.
PAPR	Powered Air Purifying Respirator
PPE	Personal Protective Equipment
PEL	Permissible Exposure Limits is a legal limit in the United States for exposure of an employee to a chemical substance
RPE	Respiratory Protective Equipment
SA	Supplied Air
Sen.	Respiratory Sensitiser is a substance which when inhaled can trigger an irreversible allergic reaction in the respiratory system. Once this sensitisation reaction has taken place, further exposure to the substance, even to the tiniest trace, may produce symptoms. Breathing in the substances may irritate and cause damage to the nose, throat and lungs. Sensitisation does not usually occur right away. It generally develops after several months or even years of breathing in the sensitiser/substance.
Sk	Substance may pass through intact skin
STEL	Short Term Exposure Limit is the acceptable average exposure over a short period of time, usually 15 minutes as long as the time-weighted average is not exceeded.
TWA	Time Weighted Average is used to calculate a workers daily exposure to a hazardous substance (such as chemicals, dusts, fumes, mists, gases, or vapors) or agent (such as occupational noise), averaged to an 8-hour workday, taking into account the average levels of the substance or agent and the time spent in the area.
WEL	Workplace Exposure Limit is expressed as a time weighted average (TWA) and there are two variations, the Long Term Exposure Limit (LTEL) which is the maximum exposure permitted over an 8-hour period and the Short Term Exposure Limit (STEL) which is the maximum exposure permitted over a 15-minute reference period.

For even more specific information, please follow the standard: EN 529 - Respiratory protective device - Recommendations for selection, use, care and maintenance - Guidance document

Table: Quick selection of the filter

Work activity		Filter class
Spraying	Solvent-based varnishes	AP
	Synthetic lacquers	AP
	Isocyanate colors	AP
	Dispersion paint	AP
	Agricultural pesticides and insecticides	AP
Handling of these substances	Fungi / spores from mushrooms	P
	Bacteria, Viruses	P
	Soot from diesel / smoke	P
	Cleaning with technical petrol/gasoline	AP
	Adhesive glue with organic soluble content	AP
	Acidic gases like H ₂ S, SO ₂ and HCl	BEP
	Sulfur dioxide	ABEP
	Hydrochloric acid (hydrochloric acid)	ABEP
	Mixture of solid and liquid feces	ABEKP
	Ammonia	ABEKP
	Storage / transport of dangerous substances	ABEKP
	Mercury and its compounds	ABEKHgP
Other	Asbestos remediation	P
	Industrial dust	P
	MIG & MAG welding / plasma cutting	P

Table: Filter selection based on a welding method

Material to be welded	Well ventilated environment	Environment with limited ventilation	Restricted space
Aluminium	P	ABEP	SA
Stainless steel	P	ABEP	SA
Steel non-coated, lead based painted or galvanised	P	SA	SA
Steel coated with 2-component paints or cleaned with trichloroethylene	SA	SA	SA

When there is a significant presence of an ozone in the atmosphere, always use ABEP filter or supplied air (SA).

REFERENCES

EN 529
EN 143
EN 14 387
EN 12 941
EN 12 942
EH40/2005

Filter type Product code									Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments				
	P		A		AX		B					E		K				Hg		SX	

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Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems

Colour code <i>Type</i>	For use against <i>Other information</i>
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	Substance as specified by the manufacturer
Orange Reactor	Radioactive methyl iodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942.

Filter type	P	A	AX	B	E	K	Hg	SX
Product code								
Particle filters with RD40*1/7" thread								
P3 50 00 48	P3	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)						
Gas filters with RD40*1/7" thread								
A2 50 01 56	A2							
B2 50 01 61		B2						
K2 50 01 59				K2				
A2B2 50 01 58	A2		B2					
A2B2E2 50 01 63	A2		B2	E2				
A2B2E2K2 50 01 69	A2		B2	E2	K2			

Combined filters with RD40*1/7" thread

A1P3 50 03 57	P3	A1						
A2P3 50 01 57	P3	A2						
A3AXP3 50 01 70	P3	A3	AX					
B2P3 50 01 62	P3			B2				
K2P3 50 01 60	P3					K2		
A2B2P3 50 01 67	P3	A2		B2				
A2B2E2P3 50 01 64	P3	A2		B2	E2			
A1B1E1P3 50 03 64	P3	A1		B1	E1			
A2B2E2K2P3 50 01 68	P3	A2		B2	E2	K2		
A2B2E2K2HgP3 50 01 66	P3	A2		B2	E2	K2	Hg	

Filters with TR-110 thread (AerGO® / D-Bug)			
P R S L 30 00 10/2	PRSL		
A1P R S L 30 03 57	PRSL	A1	
A1B1E1P R S L 30 03 64	PRSL	A1	B1 E1

Filter for CleanAIR® Basic EVO (Basic 2000)		
P R SL	PRSL	
80 00 10/2		

Filter for CleanAIR® Asbest	
PRSL 56 00 10	

Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems

Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments
			Long-term		Short-term			
			ppm	mg.m ³	ppm	mg.m ³		
Chromium (VI) compounds (as Cr)	P	-	-	0,05	-	-	-	Eye irritant; Carc.; Sen.
Cobalt and Cobalt compounds (as Co)	P	-	-	0.1	-	-	20 mg/ m ³	Carc. (cobalt dichloride and sulphate); Sen.
Copper fume (as Cu)	P	7440-50-8	-	0,2	-	-	-	Eye, skin & respiratory irritant
Copper and compounds dust and mists (as Cu)	P	7440-50-8	-	1	-	2	-	Eye, skin & respiratory irritant
Cotton dust	P	-	-	2,5	-	-		Respiratory irritant; Cardio.
Cryofluorane (Freon™ 114) / (Halon™ 242) Refrigerant 114; FC-114; 1,2-dichloro-1,1,2,2-tetrafluoroethane	SA	76-14-2	1000	7110	1250	8890	50000	Respiratory irritant; Poor warning properties; Asphyxiant; Cardio.
Cumene Isopropyl benzene; 2-Phenyl propane; Cumol	A	98-82-8	25	125	50	250	8000	Eye irritant; Sk
Cyanamide Cyanogenamide; Carbodiimide	P	420-04-2	0,58	1	-	-	-	Eye, skin & respiratory irritant; Sk
Cyanides, except HCN, cyanogen and cyanogen chloride (as CN)	BP	57-12-5	-	5	-	-	50 mg/m ³	Warning properties unknown; Sk
Cyanogen chloride CNCl	SA	506-77-4	-	-	0,3	0,77	-	Eye, skin & respiratory irritant; Poor warning properties
Cyclohexane Hexahydrobenzene; Hexamethylene	A	110-82-7	100	350	300	1050	10000	Eye, skin & respiratory irritant; CNS
Cyclohexanol Hexalin; Hydralin; Hexahydrophenol; Hydroxycyclohexane; Anol; Cyclohexyl alcohol	A	108-93-0	50	208	-	-	3500	Eye, skin & respiratory irritant; CNS
Cyclohexanone Pimelic ketone; Cyclohexyl ketone	A	108-94-1	10	41	20	82	5000	Eye & skin irritant; Sk; CNS
Cyclohexylamine Hexahydroaniline; Aminocyclohexane; Cyclohexanamine	A	108-91-8	10	41	-	-	-	Eye, skin & respiratory irritant; CNS
2,4 D (ISO) 2-(2,4-dichlorophenoxy)acetic acid	AP	94-75-7	-	10	-	20	-	Skin irritant; CNS
Dialkyl 79 phthalate Dialkylphthalate C7-C9, Phthalic acid, dialkyl(C7-9) ester	P	83968-18-7	-	5	-	-	-	-
Diallyl phthalate	AP	131-17-9	-	5	-	-	-	-
Diatomaceous earth, natural, respirable dust Diatomite; Dioxosilane; Silicon dioxide	P	61790-53-2	-	1,2	-	-	-	Eye & respiratory irritant; Pneumoconiosis
Dibenzoyl peroxide Benzoyl peroxide; Benzoyl benzenecarboperoxoate	AP	94-36-0	-	5	-	-	7000 mg/m ³	Eye, skin & respiratory irritant
Dibismuth tritelluride Bismuth telluride	P	1304-82-1	-	10	-	20	-	-
Diboron trioxide Anhydrous boric acid; Boric anhydride; Boron oxide; oxo(oxoboranyloxy)borane	P	1303-86-2	-	10	-	20	-	Eye, skin & respiratory irritant
1,2-Dibromoethane Ethylene dibromide	A	106-93-4	0,5	3,9	-	-	400	Eye, skin & respiratory irritant; Carc.; Sk
Dibutyl hydrogen phosphate Dibutyl acid-o-phosphate; Di-n-butyl hydrogen phosphate; Dibutyl phosphoric acid	AP	107-66-4	1	8,7	2	17	125	Eye, skin & respiratory irritant
Dibutyl phthalate Dibutyl benzene-1,2-dicarboxylate	AP	84-74-2	-	5	-	10	9300 mg/m ³	Eye & respiratory irritant
Dichloroacetylene Dichloroethyne	SA	7572-29-4	-	-	0,1	0,39	-	Eye irritant; Warning properties unknown; CNS
1,2-Dichlorobenzene ortho-dichlorobenzene; o-Dichlorobenzene; o-Dichloro-Benzol	A	95-50-1	25	153	50	306	1000	Eye, skin & respiratory irritant; Sk
1,4-Dichlorobenzene para-dichlorobenzene; p-Dichlorobenzene; Dichloricide	A	106-46-7	25	153	50	306	1000	Eye & respiratory irritant
1,3-Dichloro-5,5-dimethyl-hydantoin Halane; Dactin	ABEP	118-52-5	-	0,2	-	0,4	-	Eye & respiratory irritant

Colour code Type	For use against Other information
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	 Substance as specified by the manufacturer
Orange Reactor	Radioactive methyl iodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942.

Filter type	P	A	AX	B	E	K	Hg	SX
Product code								

Particle filters with RD40*1/7" thread

P3	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)
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Gas filters with RD40*1/7" thread

A2	A2						
B2			B2				
K2						K2	
A2B2	A2		B2				
A2B2E2	A2		B2		E2		
A2B2E2K2	A2		B2		E2	K2	

Combined filters with RD40*1/7" thread

A1P3 50 03 57	P3	A1				
A2P3 50 01 57	P3	A2				
A3AXP3 50 01 70	P3	A3	AX			
B2P3 50 01 62	P3			B2		
K2P3 50 01 60	P3					K2
A2B2P3 50 01 67	P3	A2		B2		
A2B2E2P3 50 01 64	P3	A2		B2	E2	
A1B1E1P3 50 03 64	P3	A1		B1	E1	
A2B2E2K2P3 50 01 68	P3	A2		B2	E2	K2
A2B2E2K2HgP3 50 01 66	P3	A2		B2	E2	K2 Hg

		Filters with TR-110 thread (AerGO® / D-Bug)			
P R S L	30 00 10/2	P R S L			
A1 P R S L	30 03 57	P R S L	A1		
A1B1E1 P R S L	30 03 64	P R S L	A1	B1	E1

Filter for CleanAIR® Basic EVO (Basic 2000)	
PRSL 80 00 10/2	

Filter for CleanAIR® Asbest	
PRSL 56 00 10	PRSL

Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems

Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments
			Long-term		Short-term			
			ppm	mg.m ⁻³	ppm	mg.m ⁻³		
1,1-Dichloroethane Ethylidene chloride	SA	75-34-3	100	-	-	-	4000	Eye, skin & respiratory irritant; Poor warning proper- ties; Sk; CNS
1,2-Dichloroethane Ethylene Dichloride; Ethylene chloride	SA	107-06-2	5	21	-	-	1000	Poor warning properties; Carc.; Sk; CNS
1,2-Dichloroethylene , cis:trans isomers 60:40 Acetylene dichloride; Dioform	AX	540-59-0	200	806	250	1010	4000	Eye, skin & respiratory irritant; Single shift only; Short organic vapor service life; CNS
Dichlorofluoromethane Refrigerant 21; Freon™ 21	SA	75-43-4	10	43	-	-	50000	Warning properties unknown; Asphyxiant; Cardio.
Dichloromethane Methylene chloride	SA	75-09-2	100	350	300	1060	5000	Eye & skin irritant; Carc.; Sk
2,2'-Dichloro-4,4'-methylene-dianiline (MbOCA) 4,4'-Methylene-bis-(2-chlorobenzamine); 4,4'-Methylene-bis-(2-chloraniline)	AP	101-14-4	-	0,005	-	-	-	Warning properties unknown; Carc.; Sk
Dicyclohexyl phthalate Dicyclohexyl benzene-1,2-dicarboxylate	AP	84-61-7	-	5	-	-	-	-
Dicyclopentadiene	AP	77-73-6	5	27	-	-	-	Eye, skin & respiratory irritant; CNS
Diethylamine N-ethylethanamine	K	109-89-7	5	15	10	30	-	Eye, skin & respiratory irritant
Diethyl ether Ethyl ether; Ethyl oxide; Ether	AX	60-29-7	100	310	200	620	19000	Eye, skin & respiratory irritant; Single shift only; Short organic vapor service life; CNS
Diethyl phthalate Ethylphthalate; Phthalic acid diethyl ester	AP	84-66-2	-	5	-	10	-	Eye & skin irritant; CNS
Diethyl sulphate Diethyl sulfate	ABP	64-67-5	0,05	0,32	-	-	-	Carc.; Sk
Dihydrogen selenide (as Se) Selenium hydride; Hydrogen selenide (as Se)	SA	7783-07-5	0,02	0,07	0,05	0,17	2	Eye, skin & respiratory irritant; Poor warning properties
Diisobutyl phthalate bis(2-methylpropyl) benzene-1,2-dicarboxylate	AP	84-69-5	-	5	-	-	-	Sk.
Diisodecyl phthalate bis(8-methylnonyl) benzene-1,2-dicarboxylate	AP	26761-40-0	-	5	-	-	-	-
Diisononyl phthalate bis(7-methyloctyl) benzene-1,2-dicarboxylate	AP	28553-12-0	-	5	-	-	-	-
Diisooctyl phthalate bis(6-methylheptyl) benzene-1,2-dicarboxylate	AP	27554-26-3	-	5	-	-	-	-
Diisopropylamine N-propan-2-ylpropan-2-amine	K	108-18-9	5	21	-	-	1000	Eye, skin & respiratory irritant; Sk.; CNS
Diisopropyl ether Isopropyl ether	A	108-20-3	250	1060	310	1310	10000	Eye & skin irritant; CNS
N,N-Dimethylacetamide Dimethyl acetamide	SA	127-19-5	10	36	20	72	400	Eye, skin & respiratory irritant; Poor warning proper- ties; Sk; CNS
N,N-Dimethylaniline Dimethylaniline	A	121-69-7	5	25	10	50	100	Blood; Cardio.; Sk; CNS
N,N-Dimethylethylamine N,N-dimethylethanamine	K	598-56-1	10	30	15	46	-	-
Dimethyloxymethane Methylal; Methyl formal; Formal; Dimethylacetal formaldehyde; Dimethoxymethane	AX	109-87-5	1000	3160	1250	3950	15000	Eye, skin & respiratory irritant; Warning properties unknown; Single shift only; CNS
Dimethylamine Anhydrous	K	124-40-3	2	3,8	6	11	2000	Eye & respiratory irritant
2-Dimethylaminoethanol	SA	108-01-0	2	7,4	6	22	-	-
Dimethyl ether Methyl ether; Wood ether; Methoxymethan	AX	115-10-6	400	766	500	958	-	Single shift only; Short organic vapor service life
N,N-Dimethylformamide Dimethylformamide; DMF	SA	68-12-2	5	15	10	30	3500	Eye, skin & respiratory irritant; Poor warning proper- ties; Sk
2,6-Dimethylheptan-4-one Diisobutyl ketone; 2,6-Dimethyl-4-heptanone; sym-Diisopropylacetone; Isovalerone; Valerone	A	108-83-8	25	148	-	-	2000	Eye & skin irritant; CNS

Colour code Type	For use against Other information
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	 Substance as specified by the manufacturer
Orange Reactor	Radioactive methyl iodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942.

Filter type Product code	P A AX B E K Hg SX							Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments	
	Long-term		Short-term														
	ppm	mg.m ³	ppm	mg.m ³													
P3 50 00 48	Particle filters with RD40*1/7" thread							Dimethyl phthalate Dimethyl benzene-1,2-dicarboxylate	P	131-11-3	-	5	-	10	9300 mg/m3	Eye & respiratory irritant	
	P3	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)						Dimethyl sulphate Sulfuric acid dimethyl ester	AP	77-78-1	0,05	0,26	-	-	10	Eye irritant; Warning properties unknown; Carc.; Sk; CNS	
Gas filters with RD40*1/7" thread		A2						Dinitrobenzene - all isomers	AP	25154-54-5	0,15	1	0,5	3,5	29	Sk	
	A2 50 01 56			B2				Dinonyl phthalate Dinonyl benzene-1,2-dicarboxylate	P	84-76-4	-	5	-	-	-	-	
	B2 50 01 61				B2				1,4-Dioxane Dioxane; Diethylene dioxide; p-Dioxane; Diethylene ether	AP	123-91-1	20	73	-	-	2000	Eye & skin irritant; Sk; Carc.
	K2 50 01 59						K2		Diphenylamine N-phenylaniline	AP	122-39-4	-	10	-	20	-	Eye & skin irritant
	A2B2 50 01 58		A2			B2			Diphenyl ether (vapour) Phenyl ether; Diphenyl oxide	AP	101-84-8	1	7,1	-	-	-	Eye & skin irritant
A2B2E2 50 01 63		A2			B2	E2		Diphosphorus pentasulphide Phosphorus pentasulphide; Phosphoric sulphide	BP	1314-80-3	-	1	-	2	750 mg/m3	Eye, skin & respiratory irritant	
A2B2E2K2 50 01 69		A2			B2	E2	K2	Disphosphorus pentoxide	P	1314-56-3	-	1	-	2	-	Eye, skin & respiratory irritant	
Combined filters with RD40*1/7" thread	A1P3 50 03 57	P3	A1					Diquat dibromide (ISO)	P	85-00-7	-	0,5	-	1	-	-	
	A2P3 50 01 57	P3	A2					Disodium disulphite Sodium pyrosulphite; Sodium metabisulphite	P	7681-57-4	-	5	-	-	-	Eye, skin & respiratory irritant	
	A3AXP3 50 01 70	P3	A3	AX				Disodium tetraborate - anhydrous Borates, tetra sodium salts - anhydrous	P	1330-43-4	-	1	-	-	-	Eye, skin & respiratory irritant	
	B2P3 50 01 62	P3			B2			Disodium tetraborate - decahydrate Borates, tetra sodium salts - decahydrate	P	1330-96-4	-	5	-	-	-	Eye, skin & respiratory irritant	
	K2P3 50 01 60	P3					K2	Disodium tetraborate - pentahydrate Borates, tetra sodium salts - pentahydrate	P	11130-12-4	-	1	-	-	-	Eye, skin & respiratory irritant	
	A2B2P3 50 01 67	P3	A2			B2		Disulphur dichloride Sulphur monochloride; Sulphur chloride; Sulphur subchloride	BP	10025-67-9	-	-	1	5,6	10	Eye, skin & respiratory irritant	
	A2B2E2P3 50 01 64	P3	A2			B2	E2	2,6-Di-tert-butyl-p-cresol (Butylated hydroxytoluene) BHT; 2,6-Ditertiary-butyl-para-cresol; 2,6-ditert-butyl-4-methylphenol	P	128-37-0	-	10	-	-	-	Eye & skin irritant	
	A1B1E1P3 50 03 64	P3	A1			B1	E1	6,6'-Di-tert-butyl-4,4'-thiodi-m-cresol 4,4'-Thiobis(6-tert-butyl-m-cresol); 4,4'-Thiobis(3-methyl-6-tert-butyl phenol)	P	96-69-5	-	10	-	20	-	Eye, skin & respiratory irritant	
	A2B2E2K2P3 50 01 68	P3	A2			B2	E2	K2	Diuron (ISO) 3-(3,4-dichlorophenyl)-1,1-dimethylurea	P	330-54-1	-	10	-	-	-	Eye, skin & respiratory irritant; Blood
	A2B2E2K2HgP3 50 01 66	P3	A2			B2	E2	K2	Hg	Emery - inhalable / respirable dust Corundum Alumina	P	1302-74-5	- -	10 4	- -	- -	Eye, skin & respiratory irritant
Filters with TR-110 thread (AerGO® / D-Bug)		PRSL						Endosulfan (ISO)	P	115-29-7	-	0,1	-	0,3	-	Sk; CNS	
	P R SL 30 00 10/2	PRSL	A1					Enflurane 2-Chloro-1,1,2-trifluoroethyl difluoromethyl ether; Ethrane	SA	13838-16-9	50	383	-	-	-	Eye irritant; Warning properties unknown; CNS	
	A1P R SL 30 03 57	PRSL	A1					Ethane-1-2-diol - particulate or vapour Ethylene glycol; Ethylene alcohol; Glycol; 1,2-Ethanediol	AP	107-21-1	- 20	10 52	- 40	- 104	-	Eye & skin irritant; Sk; CNS	
A1B1E1P R SL 30 03 64	PRSL	A1			B1	E1		Ethanethiol Ethyl mercaptan; Ethyl sulphhydrate	AX	75-08-1	0,5	1,3	2	5,2	2500	Skin irritant; Single shift only	
Filter for CleanAIR® Basic EVO (Basic 2000)		PRSL						Ethanol Ethyl alcohol	A	64-17-5	1000	1920	-	-	15000	Eye & skin irritant; Short organic vapor service life	
	P R SL 80 00 10/2	PRSL						2-Ethoxyethanol Ethylene glycol monoethyl ether; Glycol monoethyl ether	A	110-80-5	2	8	-	-	6000	Eye irritant; Sk	
Filter for CleanAIR® Asbest		PRSL						2-Ethoxyethyl acetate Ethylene glycol monoethyl ether acetate	A	111-15-9	2	11	-	-	6000	Eye irritant; Sk	
	P R SL 56 00 10	PRSL						2-Ethylhexyl chloroformate 2-ethylhexyl carbonochloridate	AP	24468-13-1	1	8	-	-	-	-	
Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems																	

Colour code Type	For use against Other information
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	Substance as specified by the manufacturer
Orange Reactor	Radioactive methyl iodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942.

Filter type Product code	P A AX B E K Hg SX							CAS Number	Workplace exposure limit		IDLH value	Comments
	Long-term		Short-term									
	ppm	mg.m ³	ppm	mg.m ³								
Particle filters with RD40*1/7" thread												
	P3 50 00 48	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)										
Gas filters with RD40*1/7" thread												
	A2 50 01 56	A2										
B2 50 01 61			B2									
K2 50 01 59					K2							
A2B2 50 01 58	A2			B2								
A2B2E2 50 01 63	A2			B2	E2							
A2B2E2K2 50 01 69	A2			B2	E2	K2						
Combined filters with RD40*1/7" thread												
A1P3 50 03 57	P3	A1										
A2P3 50 01 57	P3	A2										
A3AXP3 50 01 70	P3	A3	AX									
B2P3 50 01 62	P3			B2								
K2P3 50 01 60	P3					K2						
A2B2P3 50 01 67	P3	A2			B2							
A2B2E2P3 50 01 64	P3	A2			B2	E2						
A1B1E1P3 50 03 64	P3	A1			B1	E1						
A2B2E2K2P3 50 01 68	P3	A2			B2	E2	K2					
A2B2E2K2HgP3 50 01 66	P3	A2			B2	E2	K2	Hg				
Filters with TR-110 thread (AerGO® / D-Bug)												
P R SL 30 00 10/2	PRSL											
A1P R SL 30 03 57	PRSL	A1										
A1B1E1P R SL 30 03 64	PRSL	A1			B1	E1						
Filter for CleanAIR® Basic EVO (Basic 2000)												
P R SL 80 00 10/2	PRSL											
Filter for CleanAIR® Asbest												
P R SL 56 00 10	PRSL											
Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems												
Substance Synonym	Filter Type	CAS Number	Workplace exposure limit		IDLH value		Comments					
Ethyl acrylate Acrylic acide ethyl ester; Ethyl prop-2-enoate	A	140-88-5	5	21	10	42	2000	Eye, skin & respiratory irritant				
Ethylamine Anhydrous ethylamine; Aminoethane; Monoethylamine; Ethyl prop-2-enoate	K	75-04-7	2	3,8	6	11	4000	Eye, skin & respiratory irritant				
Ethylbenzene Phenylethane; Ethylbenzol	A	100-41-4	100	441	125	552	2000	Eye & skin irritant; Sk; CNS				
Ethyl chloroformate Ethyl carbonochloridate	A	541-41-3	1	4,5	-	-	-	Eye, skin and respiratory irritant				
Ethyl cyanoacrylate ethyl 2-cyanoprop-2-enoate	AP	7085-85-0	-	-	0,3	1,5	-	Eye, skin and respiratory irritant				
Ethyl formate Ethyl methanoate; Formic acid ethyl ester	AX	109-94-4	100	308	150	462	8000	Eye & respiratory irritant; Short organic vapor service life; Single shift only; CNS				
Ethylene oxide Dimethylene oxide; Oxirane; 1,2-Epoxy ethane	SA	75-21-8	5	9,2	-	-	800	Eye irritant; Poor warning properties; Carc.				
4-Ethylmorpholine N-Ethylmorpholine	AP	100-74-3	5	24	20	96	2000	Eye & skin irritant; Sk				
Ferrous foundry particulate - inhalable / respirable dust	P	-	-	10 4	-	-	-	-				
Flour dust	P	-	-	10	-	30	-	Sen				
Fluoride (inorganic as F)	P	16984-48-8	-	2,5	-	-	500 mg/m³	-				
Fluorine Molecular fluorine	SA	7782-41-4	1	1,6	1	1,6	25	Eye & respiratory irritant; Poor warning properties				
Formaldehyde Methylene oxide	ABEK	50-00-0	2	2,5	2	2,5	30	Eye, skin & respiratory irritant; Carc.				
Formamide Carbamaldehyde; Methanamide	SA	75-12-7	20	37	30	56	-	Eye & skin irritant; Poor warning properties; CNS				
Formic acid Hydrogencarboxylic acid; Methanoic acid	SA	64-18-6	5	9,6	-	-	-	Eye irritant; Poor warning properties				
2-Furaldehyde Furfuraldehyde; Fural; 2-Furancarboxaldehyde; Furfural; Furan-2-carbaldehyde	A	98-01-1	2	8	5	20	250	Eye, skin & respiratory irritant; Sk				
Germane Germanium tetrahydride; Germanium hydride	SA	7782-65-2	0,2	0,64	0,6	1,9	-	Warning properties unknown				
Glutaraldehyde 1,5-Pentanedial; Pentanedial	AP	111-30-8	0,05	0,2	0,05	0,2	-	Eye, skin & respiratory irritant; Sen.				
Glycerol, mist Glycerin; Propane-1,2,3-triol	AP	56-81-5	-	10	-	-	-	-				
Grain dust (oats, wheat, barley)	P	-	-	10	-	-	-	Eye, skin & respiratory irritant; Sen.				
Graphite - inhalable / respirable dust (Activated charcoal) Plumbago; Potelot; Corbo minerals; Black lead; Silver lead	P	7440-44-0	-	10 4	-	-	-	-				
Gypsum - inhalable / respirable dust Calcium;sulfate;dihydrate	P	10101-41-4	-	10 4	-	-	-	Eye & skin irritant				
Halogeno-platinum compounds (complex co-ordination compounds in which the platinum atom is directly co-ordinated to halide groups) (as Pt)	P	-	-	0,002	-	-	-	Sen				
Halothane 2-Bromo-2-chloro-1,1,1-trifluoroethane	SA	151-67-7	10	82	-	-	-	Eye, skin & respiratory irritant; CNS				
Hardwood dust	P	-	-	5	-	-	-	Carc.; Sen				
n-Heptane Normal heptane; Heptane	A	142-82-5	500	2085	-	-	5000	CNS				
Heptan-2-one Methyl n-amyl ketone; n-Amyl methyl ketone; 2-Heptanone	A	110-43-0	50	237	100	475	4000	Eye & skin irritant; Sk; CNS				
Heptan-3-one 3-Heptanone; Ethyl butyl ketone	A	106-35-4	35	166	100	475	3000	Eye & skin irritant; Sk; CNS				
Colour code Type	Brown A					For use against Other information						
					Organic gases and vapours							
					(boiling point above 65 °C) Class 1, 2, 3							
					Organic gases and vapours							
					(boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class							
					Inorganic gases and vapours							
					Class 1, 2, 3 Do not use against carbon monoxide							
					SO ₂ and other acid gases							
					Class 1, 2, 3							
					Ammonia and its organic derivatives							
					Class 1, 2, 3							
					Particles							
					Class 1, 2, 3							
					Mercury							
					Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class							
					Oxides of nitrogen							
					Must include P3 particle filter Single use only; Special filter are only specified for one class							
					Substance as specified by the manufacturer							
					Radioactive methyl iodide and radioactive particles							
					Must include P3 particle filter							
					The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.							
This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942												

Filter type	P	A	AX	B	E	K	Hg	SX
Product code								

Particle filters with RD40*1/7" thread

P3	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)
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Gas filters with RD40*1/7" thread

A2	A2							
B2			B2					
K2						K2		
A2B2	A2		B2					
A2B2E2	A2		B2		E2			
A2B2E2K2	A2		B2		E2	K2		

Combined filters with RD40*1/7" thread

A1P3 50 03 57	P3	A1							
A2P3 50 01 57	P3	A2							
A3AXP3 50 01 70	P3	A3	AX						
B2P3 50 01 62	P3			B2					
K2P3 50 01 60	P3						K2		
A2B2P3 50 01 67	P3	A2			B2				
A2B2E2P3 50 01 64	P3	A2			B2	E2			
A1B1E1P3 50 03 64	P3	A1			B1	E1			
A2B2E2K2P3 50 01 68	P3	A2			B2	E2	K2		
A2B2E2K2HgP3 50 01 66	P3	A2			B2	E2	K2	Hg	

		Filters with TR-110 thread (AerGO® / D-Bug)			
P R SL	30 00 10/2	P R SL			
A1P R SL	30 03 57	P R SL	A1		
A1B1E1P R SL	30 03 64	P R SL	A1	B1	E1

Filter for CleanAIR® Basic EVO (Basic 2000)	
PRSL 80 00 10/2	

P R S L 56 00 10	Filter for CleanAIR® Asbest	
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Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems

Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments
			Long-term		Short-term			
			ppm	mg.m ³	ppm	mg.m ³		
n-Hexane Hexane; Hexyl hydride; Normal hexane	A	110-54-3	20	72	-	-	5000	Eye & skin irritant; CNS
Caprolactam dust and vapour Aminocaproic lactam; 2-Oxohexamethyleneimine; Azepan-2one	AP	105-60-2	-	1 10	-	3 20	-	Eye, skin & respiratory irritant; CNS
Hexan-2-one 2-Hexanone; Methyl butyl ketone	A	591-78-6	5	21	-	-	5000	Eye irritant; Sk; CNS
Hydrazine Anhydrous hydrazine; Diazine	SA	302-01-2	0,02	0,03	0,1	0,13	80	Eye & skin irritant; Poor warning properties; Carc.; Sk; CNS
Hydrogen bromide Hydrobromic acid; HBr; Bromane	BP	10035-10-6	-	-	3	10	-	Eye, skin & respiratory irritant
Hydrogen chloride (gas and aerosol mists) Hydrochloric acid; HCl; Muriatic Acid; Chlorane	BP	7647-01-0	1	2	5	8	100	Eye, skin & respiratory irritant
Hydrogen cyanide Hydrocyanic acid; Prussic acid; Formonitrile	BP	74-90-8	-	-	10	11	50	Eye irritant; Sk; CNS
Hydrogen fluoride Fluorane; Fluoric acid; HF	BP	7664-39-3	1,8	1,5	3	2,5	30	Eye, skin & respiratory irritant
Hydrogen peroxide Peroxide; Hydrogen dioxide	BP	7722-84-1	1	1,4	2	2,8	75	Eye, skin & respiratory irritant; Warning properties unknown
Hydrogen sulphide Sulfane; H2S; Hydrosulphuric Acid	B	7783-06-4	5	7	10	14	300	Eye & respiratory irritant; Warning properties (Olfactory fatigue); CNS
Hydroquinone Benzene-1,4-diol; Quinol; Dihydroxybenzene; 1,4-Benzenediol	AP	123-31-9	-	0,5	-	-	50 mg/m ³	Eye irritant; CNS
4-Hydroxy-4-methylpentan-2-one Diacetone; Diacetone alcohol; 2-Methyl-2-pentanol-4-one	A	123-42-2	50	241	75	362	2100	Eye, skin & respiratory irritant; CNS; Sk
2-Hydroxypropyl acrylate 2-Hydroxypropyl prop-2-enoate	A	999-61-1	0,5	2,7	-	-	-	Eye, skin & respiratory irritant; Warning properties unknown; Sk
2,2'- Iminodi(ethylamine) Diethylene triamine; N'-(2-aminoethyl)ethane-1,2-diamine, Bis(2-aminothyl)amine	SA	111-40-0	1	4,3	-	-	-	Eye, skin & respiratory irritant; Poor warning properties; Sk
Indene Indonaphthene; 1H-indene	A	95-13-6	10	48	15	72	-	Eye, skin & respiratory irritant
Indium and compounds (as In)	P	-	-	0,1	0	0,3	-	Eye, skin & respiratory irritant
Iodine Molecular iodine	BP	7553-56-2	-	-	0,1	1,1	10	Eye, skin & respiratory irritant; Warning properties unknown; CNS
Iodoform Triiodomethane	SA	75-47-8	0,6	9,8	1	16	-	Eye & skin irritant; Poor warning properties
Iodomethane Methyl iodide	AX	74-88-4	2	12	-	-	800	Eye, skin & respiratory irritant; Warning properties unknown; Single shift only; Sk; CNS
Iron(III)oxide, fume (as Fe) Ferric oxide fume	P	1309-37-1	-	5	-	10	-	-
Iron salts (as Fe) Iron salts, soluble (as Fe)	P	-	-	1	-	2	-	Eye irritant
Isobutyl acetate 2-Methylpropyl acetate	AP	110-19-0	150	724	187	903	7500	Eye, skin & respiratory irritant; CNS
Isocyanates, all (as -NCO) Except methyl isocyanate	SA	-	-	0,02	-	0,07	-	Sen.
Isoflurane	SA	26675-46-7	50	383	-	-	-	CNS; Asphyxiant
Isooctyl alcohol (mixed isomers) Isooctanol; 6-Methylheptan-1-ol	AP	26952-21-6	50	271	-	-	-	Eye & skin irritant; Warning properties unknown
Isopentane 2-Methylbutane	AX	78-78-4	600	1800	-	-	-	Single shift only; CNS
Isopropyl acetate Isopropyl ester of acetic acid; sec-Propyl acetate; Propan-2-yl acetate	A	108-21-4	-	-	200	849	16000	Eye, skin & respiratory irritant; CNS
Isopropyl chloroformate Propan-2-yl carbonochloridate	AP	108-23-6	1	5,1	-	-	-	Eye, skin & respiratory irritant

Colour code Type	For use against Other information
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	 Substance as specified by the manufacturer
Orange Reactor	Radioactive methyl iodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942.

Filter type Product code	P A AX B E K Hg SX							Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments			
	Long-term		Short-term															
	ppm	mg.m ³	ppm	mg.m ³														
Particle filters with RD40*1/7" thread	P3 50 00 48	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)							P	1332-58-7	-	2	-	-	-	-		
		SA	463-51-4	0,5	0,87	1,5	2,6	-	Eye & skin irritant; Warning properties unknown									
Gas filters with RD40* 1/7" thread	A2 50 01 56	A2						P	1317-65-3	-	10 4	-	-	-	Eye & skin irritant; Carc. (only applies if LPG contains more than 0.1% of buta-1,3-diene)			
	B2 50 01 61			B2				SA	68476-85-7	1000	1750	1250	2180	19000	Warning properties unknown; Asphyxiant			
	K2 50 01 59					K2				P	7580-67-8	-	0,025	-	-	55 mg/m ³	Eye & skin irritant	
	A2B2 50 01 58	A2			B2				P	1310-65-2	-	-	-	1	-	Eye, skin & respiratory irritant		
	A2B2E2 50 01 63	A2			B2	E2			P	546-93-0	-	10 4	-	-	-	Eye, skin & respiratory irritant		
A2B2E2K2 50 01 69	A2			B2	E2	K2			P	1309-48-4	-	10 4	-	-	-	750 mg/m ³	Eye, skin & respiratory irritant	
Combined filters with RD40*1/7" thread	A1P3 50 03 57	P3	A1					AP	121-75-5	-	10	-	-	-	Eye, skin & respiratory irritant; Sk; CNS			
	A2P3 50 01 57	P3	A2					AP	108-31-6	-	1	-	3	-	Skin & respiratory irritant; Sen.			
	A3AXP3 50 01 70	P3	A3	AX				P	7439-96-5	-	0,5	-	-	-	-	-		
	B2P3 50 01 62	P3			B2				P	1317-65-3	-	10 4	-	-	-	Eye & skin irritant; Carc. (only applies if LPG contains more than 0.1% of buta-1,3-diene)		
	K2P3 50 01 60	P3					K2				SA	68-11-1	1	3,8	-	-	Eye, skin & respiratory irritant; Poor warning proper- ties; Sk.	
	A2B2P3 50 01 67	P3	A2			B2				ABEK HgP	-	-	0,02	-	-	28 mg/m ³	Eye & skin irritant; Sk.	
	A2B2E2P3 50 01 64	P3	A2			B2	E2			AP	79-41-4	20	72	40	143	-	Eye & skin irritant; Warning properties unknown	
	A1B1E1P3 50 03 64	P3	A1			B1	E1			SA	126-98-7	1	2,8	-	-	-	Eye & skin irritant; Poor warning properties; Sk; CNS	
	A2B2E2K2P3 50 01 68	P3	A2			B2	E2	K2			SA	74-93-1	0,5	1	-	-	-	Eye, skin & respiratory irritant; Blood; CNS
	A2B2E2K2HgP3 50 01 66	P3	A2			B2	E2	K2	Hg	AX	67-56-1	200	266	250	333	25000	Eye, skin & respiratory irritant; Single shift only; Sk	
Filters with TR-110 thread (AerGO® / D-Bug)	PRSL								A	111-77-3	10	50,1	-	-	-	Sk		
	PRSL	A1					A	110-49-6	1	5	-	-	-	4000	Eye, skin & respiratory irritant; Sk; CNS			
	PRSL	A1			B1	E1			SA	34590-94-8	50	308	-	-	-	Eye, skin & respiratory irritant; Poor warning proper- ties; Sk		
Filter for CleanAIR® Basic EVO (Basic 2000)	PRSL								A	107-98-2	100	375	150	560	-	Eye & skin irritant; Sk; CNS		
	PRSL							A	108-65-6	50	274	100	548	-	Eye, skin & respiratory irritant; Sk; CNS			
Filter for CleanAIR® Asbest	PRSL								AX	79-20-9	200	616	250	770	10,000	Eye, skin & respiratory irritant; Short organic vapor service life; Single shift only; CNS		
	PRSL								A	96-33-3	5	18	10	36	1000	Eye, skin & respiratory irritant; CNS		
	PRSL								A	123-51-3	100	366	125	458	10000	Eye & skin irritant		
	PRSL								A	137-05-3	-	-	0,3	1,4	-	Eye, skin & respiratory irritant		

Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems

Colour code <i>Type</i>	For use against <i>Other information</i>
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	Substance as specified by the manufacturer
Orange Reactor	Radioactive methylodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942.

Filter type	P	A	AX	B	E	K	Hg	SX
Product code								
Particle filters with RD40*1/7" thread								
P3 50 00 48	P3	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)						
Gas filters with RD40*1/7" thread								
A2 50 01 56	A2							
B2 50 01 61			B2					
K2 50 01 59					K2			
A2B2 50 01 58	A2		B2					
A2B2E2 50 01 63	A2		B2	E2				
A2B2E2K2 50 01 69	A2		B2	E2	K2			

	Combined filters with RD40*1/7" thread									
A1P3 50 03 57	P3	A1								
A2P3 50 01 57	P3	A2								
A3AXP3 50 01 70	P3	A3	AX							
B2P3 50 01 62	P3				B2					
K2P3 50 01 60	P3							K2		
A2B2P3 50 01 67	P3	A2			B2					
A2B2E2P3 50 01 64	P3	A2			B2	E2				
A1B1E1P3 50 03 64	P3	A1			B1	E1				
A2B2E2K2P3 50 01 68	P3	A2			B2	E2	K2			
A2B2E2K2HgP3 50 01 66	P3	A2			B2	E2	K2		Hg	

Filters with TR-110 thread (AerGO® / D-Bug)				
P R S L 30 00 10/2	PRSL			
A1P R S L 30 03 57	PRSL	A1		
A1B1E1P R S L 30 03 64	PRSL	A1	B1	E1

Filter for CleanAIR® Basic EVO (Basic 2000)	
PR SL 80 00 10/2	

Filter for CleanAIR® Asbest	
PR SL 56 00 10	

Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems

Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments
			Long-term		Short-term			
			ppm	mg.m ³	ppm	mg.m ³		
4,4'-Methylene dianiline 4,4'-Diaminodiphenylmethane; 4-[(4-aminophenyl)methyl]aniline	AP	101-77-9	0,01	0,08	-	-	-	Eye irritant; Warning properties unknown; Carc.; Sk
Methyl ethyl ketone peroxide	AP	1338-23-4	-	-	0,2	1,5	-	Eye, skin & respiratory irritant; Warning properties unknown
Methyl methacrylate ethyl 2-methylprop-2-enoate	A	80-62-6	50	208	100	416	-	Eye, skin & respiratory irritant
2-Methylcyclohexanone o-Methylcyclohexanone; 2-Methylcyclohexan-1-one	A	583-60-8	50	233	75	350	2500	Eye, skin & respiratory irritant; CNS
Methylcyclohexanols - mixture of isomers	A	25639-42-3	50	237	75	356	-	Eye, skin & respiratory irritant
Methyl isocyanate Isocyanic acid methyl ester; Methylimino(oxo)methane	SA	624-83-9	-	-	0.02	-	20	Eye, skin & respiratory irritant; Poor warning properties; Sen.; Sk
N-Methylaniline Monomethyl aniline; N-Methyl aniline	SA	100-61-8	0,5	2,2	-	-	100	Respiratory irritant; Poor warning properties; Blood; Sk; CNS
n-Methyl-2-pyrrolidone 1-methyl-2-pyrrolidone; m-Pyrol; 1-methylpyrrolidin-2-one	SA	872-50-4	10	40	20	80	-	Eye & skin irritant; Warning properties unknown; Sk
5-Methylheptan-3-one Ethyl amyl ketone; 5-Methyl-3-heptanone	A	541-85-5	10	53	20	107	3000	Eye, skin & respiratory irritant; CNS
5-Methylhexan-2-one 5-Methyl-2-hexanone; Methyl isoamyl ketone	A	110-12-3	20	95	100	475	-	Eye, skin & respiratory irritant; Sk; CNS
2-Methylpentane-2,4 diol 4-Methyl-2,4-pentanediol; Hexylene glycol	A	107-41-5	25	123	25	123	-	Eye, skin & respiratory irritant; CNS
4-methylpentan-2-ol Methyl isobutyl carbinol; Methyl amyl alcohol	A	108-11-2	25	106	40	170	2000	Eye & skin irritant; Sk; CNS
4-Methylpentan-2-one Methyl isobutyl ketone; Hexone	A	108-10-1	50	208	100	416	3000	Eye, skin & respiratory irritant; Sk; CNS
2-Methylpropan-1-ol Isobutyl alcohol; Isobutanol; 2-Methyl-1-propanol; Isopropylcarbinol	A	78-83-1	50	154	75	231	8000	Eye, skin & respiratory irritant; CNS
2-Methylpropan-2-ol tert-Butyl alcohol; 2-Methyl-2-propanol; Trimethyl-carbinol	A	75-65-0	100	308	150	462	8000	Eye, skin & respiratory irritant; CNS
Methyl-tert-butyl-ether 2-Methoxy-2-methyl-propane; tert-Butyl methyl ether; MTBE	A	1634-04-4	50	183,5	100	367	-	Eye, skin & respiratory irritant; CNS
Mica (less than 1% quartz) total - inhalable / respirable dust	P	12001-26-2	-	10 0,8	-	-	1500 mg/m ³	Eye irritant
MMMF - Machine/Man-made mineral fibre, except for refractory ceramic fibres and special purpose fibres	P	-	5 g/m ³	-	-	-	-	Eye, skin & respiratory irritant
Molybdenum (as Mo) - soluble and insoluble compounds	P	7439-98-7	-	5 10	-	10 20	-	Eye irritant
Monochloroacetic acid Chloroethanoic acid; 2-chloroacetic acid	AP	79-11-8	0,3	1,2	-	-	-	Eye irritant; Sk
Morpholine Tetrahydro-1,4-oxazine; Diethylenimide oxide	A	110-91-8	10	36	20	72	8000	Eye & skin irritant; Sk
Nickel, metal dust (as Ni)	P	7440-02-0	-	0,1 0,5	-	-	-	Carc (nickel oxides and sulphides); Sk; Sen. (nickel sulphate)
Nickel,metal fume (as Ni)	P	7440-02-0	-	-	-	-	-	Carc (nickel oxides and sulphides); Sk; Sen. (nickel sulphate)
Nickel, soluble compounds (as Ni)	P	7440-02-0	-	-	-	-	-	Carc (nickel oxides and sulphides); Sk; Sen. (nickel sulphate)
Nickel, sulphide roasting, fume and dust (as Ni)	SA	-	-	-	-	-	-	Eye irritant; Warning properties unknown; Sk; Carc (nickel oxides and sulphides); Sen. (nickel sulphate)
Nicotine 3-(1-Methyl-2-pyrrolidyl) pyridine	AP	54-11-5	-	0,5	-	1,5	35 mg/m ³	Sk; Cardio.; CNS
Nitric acid Aqua fortis; Hydrogen nitrate; White fuming nitric acid; Red fuming nitric acid	ABEP	7697-37-2	-	-	1	2,6	100	Eye & skin irritant
Nitrobenzene Nitrobenzol; Oil of mirbane	AP	98-95-3	0,2	1	-	-	200	Eye & skin irritant; Sk; Blood; Cardio., Carc.

Colour code Type	For use against Other information
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	 Substance as specified by the manufacturer
Orange Reactor	Radioactive methyl iodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942.

Filter type Product code	P	A	AX	B	E	K	Hg	SX	Workplace exposure limit Long-term ppm	Short-term mg.m ³	IDLH value	Comments
Particle filters with RD40*1/7" thread												
P3 50 00 48	P3	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)										
Gas filters with RD40* 1/7" thread												
A2 50 01 56	A2											
B2 50 01 61				B2								
K2 50 01 59						K2						
A2B2 50 01 58	A2			B2								
A2B2E2 50 01 63	A2			B2	E2							
A2B2E2K2 50 01 69	A2			B2	E2	K2						
Combined filters with RD40*1/7" thread												
A1P3 50 03 57	P3	A1										
A2P3 50 01 57	P3	A2										
A3AXP3 50 01 70	P3	A3	AX									
B2P3 50 01 62	P3			B2								
K2P3 50 01 60	P3					K2						
A2B2P3 50 01 67	P3	A2		B2								
A2B2E2P3 50 01 64	P3	A2		B2	E2							
A1B1E1P3 50 03 64	P3	A1		B1	E1							
A2B2E2K2P3 50 01 68	P3	A2		B2	E2	K2						
A2B2E2K2HgP3 50 01 66	P3	A2		B2	E2	K2	Hg					
Filters with TR-110 thread (AerGO® / D-Bug)												
P R SL 30 00 10/2	PRSL											
A1P R SL 30 03 57	PRSL	A1										
A1B1E1P R SL 30 03 64	PRSL	A1		B1	E1							
Filter for CleanAIR® Basic EVO (Basic 2000)												
P R SL 80 00 10/2	PRSL											
Filter for CleanAIR® Asbest												
P R SL 56 00 10	PRSL											
Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems												
Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments				
				Long-term ppm	Short-term mg.m ³	Short-term ppm			mg.m ³			
Nitromethane Nitrocarbol	AP	75-52-5	100	254	150	381	1000	Skin & eye irritant; Short „A“ filter service life; CNS				
2-Nitropropane sec-Nitropropane; Isonitropropane; Dimethylnitromethane	AP	79-46-9	5	19	-	-	2300	Eye & skin irritant; Carc.				
Nitrous oxide	SA	10024-97-2	100	183	-	-	-	Warning properties unknown; Asphyxiant; CNS				
Orthophosphoric acid Phosphoric acid; o-phosphoric acid	P	7664-38-2	-	1	-	2	10000 mg/m³	Eye & respiratory irritant				
Osmium tetroxide (as Os) Osmic acid; Tetraoxoosmium	BP	20816-12-0	0,000	0,002	0,001	0,006	0,1 ppm	Eye & respiratory irritant; Unknown sorbent effectiveness				
Oxalic acid Ethanedioic acid	P	144-62-7	-	1	-	2	500 mg/m³	Eye & skin irritant				
2,2'-Oxydiethanol Diethylene glycol; DEG; Diglycol; 2,2'-Dihydroxydiethyl ether	A	111-46-6	23	101	-	-	-	-				
Ozone Triatomic oxygen	ABE / Ozone	10028-15-6	-	-	0,2	0,4	10	Eye irritant				
Paracetamol, total inhalable dust N-(4-hydroxyphenyl)acetamide; Acetaminophen	P	103-90-2	-	10	-	-	-	-				
Paraffin wax, fume	AP	8002-74-2	-	2	-	6	-	Eye, skin & respiratory irritant				
Paraquat dichloride, respirable dust	AP	1910-42-5	-	0,08	-	-	-	Eye, skin & respiratory irritant; Heart				
Pentacarbonyliron (as Fe) Iron pentacarbonyl (as Fe); Iron carbonyl; Iron(0) pentacarbonyl	AP	13463-40-6	0,01	0,08	-	-	-	Eye, skin & respiratory irritant; Warning properties unknown				
Pentaerythritol - inhalable / respirable dust Tetramethylolmethane; 2,2-bis-(Hydroxymethyl)-1,3-propanediol - respirable dust	P	115-77-5	- -	10 4	- -	20 -	-	Eye & respiratory irritant				
Pentan-2-one Methyl propyl ketone; 2-Pentanone; Ethyl acetone	A	107-87-9	200	716	250	895	5000	Eye, skin & respiratory irritant; CNS				
Pentan-3-one Diethyl ketone; Metacetone; Propione; 3-Pentanone; Ethyl propionyl	A	96-22-0	200	716	250	895	-	Eye, skin & respiratory irritant; CNS				
Pentane Normal pentane; n-Pentane	AX	109-66-0	600	1800	-	-	15000	Eye, skin & respiratory irritant; Single shift only; CNS				
Pentyl acetates (all isomers) n-Amyl acetate; 1-Pentanol acetate	AP	628-63-7	50	270	100	541	3000 -9000	Eye, skin & respiratory irritant; CNS				
2-Phenylpropene a-Methyl styrene; 1-Methyl-1-phenyl-ethylene; Prop-1-en-2-ylbenzene	AP	98-83-9	50	246	100	491	5000	Eye, skin & respiratory irritant; CNS				
Phenol Carbolic acid; Monohydroxy benzene	AP	108-95-2	2	7,8	4	16	250	Eye & skin irritant; Sk				
p-Phenylenediamine p-Diaminobenzene; 1,4-Diaminobenzene; Benzene-1,4-diamine	AP	106-50-3	-	0,1	-	-	25 mg/m³	Skin & respiratory irritant; Sk				
Phorate (ISO)	AP	298-02-2	-	0,05	-	0,2	-	Eye, skin & respiratory irritant; Sk; CNS				
Phosgene Carbonyl chloride; Carbon oxychloride; Chloroformyl chloride; Carbonyl dichloride	SA	75-44-5	0,02	0,08	0,06	0,25	2	Eye, skin & respiratory irritant; Poor warning properties				
Phosphine Hydrogen phosphide; Phosphorus hydride; Phosphorated hydrogen; Phosphane	SA	7803-51-2	0,1	0,14	0,2	0,28	200	Respiratory irritant; Ineffective sorbents; Fumigant; Heart; CNS				
Phosphorus pentachloride Phosphoric chloride	EP	10026-13-8	0,1	0,87	0,2	2	200 mg/m³	Eye, skin & respiratory irritant; Warning properties unknown				
Phosphorus trichloride Phosphorus chloride; Trichlorophosphane	SA	7719-12-2	0,2	1,1	0,5	2,9	50	Eye, skin & respiratory irritant; Warning properties unknown				
Phosphorus, yellow White phosphorus; WP	SA	7723-14-0	-	0,1	-	0,3	-	Eye & respiratory irritant; Warning properties unknown; Filter „P“ acceptable if no phosphorus vapour or phosphine gas present				
Phosphoryl trichloride Phosphoryl chloride; Phosphorus oxychloride	SA	10025-87-3	0,2	1,3	0,6	3,8	-	Eye, skin & respiratory irritant; Warning properties unknown; CNS				
Phthalic anhydride 1,3-Isobenzofurandione; 2-benzofuran-1,3-dione	AP	85-44-9	-	4	-	12	1650	Eye, skin & respiratoy irritant; Sen.				

Colour code Type	For use against Other information
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO ₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	 Substance as specified by the manufacturer
Orange Reactor	Radioactive methylodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942.

Filter type Product code								Workplace exposure limit	IDLH value	Comments	
	P	A	AX	B	E	K	Hg				SX
Particle filters with RD40*1/7" thread											
P3 50 00 48	P3	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)									
Gas filters with RD40*1/7" thread											
A2 50 01 56		A2									
B2 50 01 61				B2							
K2 50 01 59						K2					
A2B2 50 01 58		A2		B2							
A2B2E2 50 01 63		A2		B2	E2						
A2B2E2K2 50 01 69		A2		B2	E2	K2					
Combined filters with RD40*1/7" thread											
A1P3 50 03 57	P3	A1									
A2P3 50 01 57	P3	A2									
A3AXP3 50 01 70	P3	A3	AX								
B2P3 50 01 62	P3				B2						
K2P3 50 01 60	P3						K2				
A2B2P3 50 01 67	P3	A2		B2							
A2B2E2P3 50 01 64	P3	A2		B2	E2						
A1B1E1P3 50 03 64	P3	A1		B1	E1						
A2B2E2K2P3 50 01 68	P3	A2		B2	E2	K2					
A2B2E2K2HgP3 50 01 66	P3	A2		B2	E2	K2	Hg				
Filters with TR-110 thread (AerGO® / D-Bug)											
P R SL 30 00 10/2	PRSL										
A1P R SL 30 03 57	PRSL	A1									
A1B1E1P R SL 30 03 64	PRSL	A1		B1	E1						
Filter for CleanAIR® Basic EVO (Basic 2000)											
P R SL 80 00 10/2	PRSL										
Filter for CleanAIR® Asbest											
P R SL 56 00 10	PRSL										
Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems											

Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments
			Long-term		Short-term			
			ppm	mg.m ⁻³	ppm	mg.m ⁻³		
Picloram (ISO)	ABP	1918-02-1	-	10	-	20	-	-
Picric acid 2,4,6-Trinitrophenol	P	88-89-1	-	0,1	-	0,3	-	Eye & skin irritant; Blood
Piperazine 1,4-Diazacyclohexane; Diethylenediamine; Hexahydropyrazine; Piperaxine and salts	P	110-85-0	-	0,1	-	0,3	-	Eye, skin & respiratory irritant; Sen.
Piperazine dihydrochloride Dihydrochloride salt of diethylene-diamine	P	142-64-3	-	0,1	-	0,3	-	Eye, skin & respiratory irritant; Sen.
Piperidine Hexahydropyridine	SA	110-89-4	1	3,5	-	-	-	Eye, skin & respiratory irritant; Sk
Plaster of Paris - inhalable / respirable dust Dicalcium;disulfate;hydrate; Gypsum hemihydrate	P	26499-65-0	-	10 4	-	-	-	Eye, skin & respiratory irritant
Platinum compounds, soluble (except certain halogeno - platinum compounds) (as Pt)	P	-	-	0,002	-	-	-	Eye irritant
Platinum metal Platinum - Metal, dusts, mists and fume	P	7440-06-4	-	5	-	-	-	Eye, skin & respiratory irritant
Polychlorinated biphenyls PCB	AP	1336-36-3	-	0,1	-	-		Eye irritant; Sk; Carc.
Polyvinyl chloride - inhalable / respirable dust	P	9002-86-2	- -	10 4	- -	- -	-	-
Portland Cement - inhalable / respirable dust	P	65997-15-1	- -	10 4	- -	- -	-	Eye & skin irritant
Potassium hydroxide Caustic potash; Potassium hydrate	P	1310-58-3	-	-	-	2	-	Eye, skin & respiratory irritant
Propane-1,2-diol - total vapour and particulates Propylene glycol; 1,2-Propanediol; 1,2-Dihydroxy-propane; Methyl glycol	AP	57-55-6	150 -	474 10	- -	- -	-	Eye, skin & respiratory irritant
Propane-1,2-diol - particulates Propylene glycol; 1,2-Dihydroxy-propane; Methyl glycol	P	57-55-6	-	-	-	-	-	Eye, skin & respiratory irritant
Propan-1-ol 1-Propanol; n-Propyl alcohol; Ethylcarbinol	AP	71-23-8	200	500	250	625	4000	Eye irritant; Sk; CNS
Propan-2-ol Isopropyl alcohol; Isopropanol; 2-Propanol; sec-Propyl alcohol	A	67-63-0	400	999	500	1250	12000	Eye & skin irritant; CNS
Propionic acid Methylacetic acid; Ethylformic acid; Propanoic acid	A	79-09-4	10	31	15	46	-	Eye, skin & respiratory irritant
Propoxur (ISO) (2-propan-2-yloxyphenyl) N-methylcarbamate	P	114-26-1	-	0,5	-	2	-	Sk; CNS
Propranolol	AP	525-66-6	-	2	-	6	-	-
n-Propyl acetate Propylacetate; Acetic acid n-propyl ester	A	109-60-4	200	849	250	1060	8000	Eye, skin & respiratory irritant; CNS
Propylene oxide 1,2-Epoxypropane; Propene oxide; Methyloxirane	SA	75-56-9	5	12	-	-	2000	Eye, skin & respiratory irritant; Poor warning proper- ties; Carc.
Prop-2-yn-1-ol 2-Propyn-1-ol; Propargyl alcohol	SA	107-19-7	1	2,3	3	7	-	Skin & respiratory irritant; Sk; CNS
Pulverised fuel ash - inhalable / respirable dust	P	-	- -	10 4	- -	- -	-	-
Pyridine Azabenzene; Azine	A	110-86-1	5	16	10	33	-	Eye & skin irritant; Sk; CNS
2-Pyridylamine a-Aminopyridine; 2-Aminopyridine; Pyridin-2-amine	SA	504-29-0	0,5	2	2	7,8	5	Eye & skin irritant; Warning properties unknown; Sk; CNS
Pyrocatechol Catechol; 1,2-Benzenediol; 2-Hydroxyphenol; 1,2-Dihydroxybenzene	SA	120-80-9	5	23	-	-	-	Eye, skin & respiratory irritant; Poor warning proper- ties; Sk; CNS
Refractory ceramic fibres and special purpose fibres	P	-	-	5	-	-	-	Carc.
Resorcinol m-Dihydroxybenzene; 1,3-Benzenediol; Benzene-1,3-diol	P	108-46-3	10	46	20	92	-	Eye, skin & respiratory irritant; Blood; Cardio.; Sk; CNS

Colour code <i>Type</i>	For use against <i>Other information</i>
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	 Substance as specified by the manufacturer
Orange Reactor	Radioactive methyl iodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942.

Filter type Product code	P	A	AX	B	E	K	Hg	SX
Particle filters with RD40*1/7" thread								
P3 50 00 48	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)							
Gas filters with RD40*1/7" thread								
A2 50 01 56	A2							
B2 50 01 61	B2							
K2 50 01 59	K2							
A2B2 50 01 58	A2 B2							
A2B2E2 50 01 63	A2 B2 E2							
A2B2E2K2 50 01 69	A2 B2 E2 K2							

Combined filters with RD40*1/7" thread

A1P3 50 03 57	P3	A1					
A2P3 50 01 57	P3	A2					
A3AXP3 50 01 70	P3	A3	AX				
B2P3 50 01 62	P3			B2			
K2P3 50 01 60	P3				K2		
A2B2P3 50 01 67	P3	A2		B2			
A2B2E2P3 50 01 64	P3	A2		B2	E2		
A1B1E1P3 50 03 64	P3	A1		B1	E1		
A2B2E2K2P3 50 01 68	P3	A2		B2	E2	K2	
A2B2E2K2HgP3 50 01 66	P3	A2		B2	E2	K2	Hg

		Filters with TR-110 thread (AerGO® / D-Bug)			
P R SL	30 00 10/2	P R SL			
A1P R SL	30 03 57	P R SL	A1		
A1B1E1P R SL	30 03 64	P R SL	A1	B1	E1

Filter for CleanAIR® Basic EVO (Basic 2000)	
PRSL 80 00 10/2	

Filter for CleanAIR® Asbest	
PRSL 56 00 10	PRSL

Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems

Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments
			Long-term		Short-term			
			ppm	mg.m ³	ppm	mg.m ³		
Rhodium (as Rh) - insoluble compounds, dusts and mists - soluble salts	P	-	-	0,1 0,001	-	0,3 0,003	-	Eye irritant
Rosin-based solder flux fume Colophony	P	8050-09-7	-	0,05	-	0,15	-	Eye, skin & respiratory irritant; Sen.
Rotenone (ISO)	P	83-79-4	-	5	-	10	-	Eye, skin & respiratory irritant; CNS
Rouge - total inhalable / respirable dust Red iron oxide; Red oxide; Blended red oxides; Iron(III)oxide	P	1309-37-1	-	10 4	-	-	-	Eye, skin & respiratory irritant
Rubber fume	P	-	-	0,6	-	-	-	Limit relates to cyclohexane soluble material; Carc.
Rubber process dust	P	-	-	6	-	-	-	Carc.
Selenium and compounds (except hydrogen selenide (as Se) - Dusts,mists & fumes)	P	-	-	0,1	-	-	-	Eye, skin & respiratory irritant
Silane Silicon tetrahydride	SA	7803-62-5	0,5	0,67	1	1,3	-	Eye, skin & respiratory irritant; Warning properties unknown; CNS
Silica, amorphous - inhalable / respirable dust Silicon dioxide, Dioxosilane	P	112945-52-5	-	6 2,4	-	-	-	Eye & respiratory irritant
Silica, crystalline - respirable dust Tripoli	P	-	-	0,1	-	-	-	Respiratory irritant
Silica, fused respirable dust Cristobalite; Quartz	P	60676-86-0	-	0,08	-	-	-	Respiratory irritant
Silicon - inhalable / respirable dust	P	7440-21-3	-	10 4	-	-	-	Eye, skin & respiratory irritant
Silicon carbide (not whiskers) - total inhalable / respirable dust Carbon silicide; Carborundum	P	409-21-2	-	10 4	-	-	-	Eye, skin & respiratory irritant
Silver (soluble compounds as Ag)	P	-	-	0,01	-	-	-	-
Silver, metallic Silver (metal)	P	7440-22-4	-	0,1	-	-	-	-
Sodium azide (as NaN3) Hydrazoic acid Hydrazoic acid; Sodium salt	SA	26628-22-8	-	0,1	-	0,3	-	Eye & skin irritant; Warning properties unknown; Sk; CNS
Sodium 2- (2,4-dichlorophenoxy) ethyl sulphate Disul-sodium	P	136-78-7	-	10	-	20	-	Eye & skin irritant; CNS
Sodium hydrogen sulphite Sodium bisulphite	EP	7631-90-5	-	5	-	-	-	Eye & skin irritant
Sodium hydroxide Caustic soda; Soda lye; Lye (Sodium hydroxide)	P	1310-73-2	-	-	-	2	250 mg/m ³	Eye & skin irritant
Softwood dust	P	-	-	5	-	-	-	Sen.
Starch - total inhalable / respirable dust Corn starch; Maltose	P	9005-25-8	-	10 4	-	-	-	Eye & skin irritant
Styrene Phenylethylene; Vinyl benzene; Cinnamene; Styrene monomer	A	100-42-5	100	430	250	1080	5000	Eye, skin & respiratory irritant; Carc.
Subtilisins Proteolytic enzymes as 100% crystalline enzyme	SA	1395-21-7	-	0,000	-	-	-	Eye, skin & respiratory irritant; Warning properties unknown; Sen.
Sucrose Table sugar; Saccharose	P	57-50-1	-	10	-	20	-	Eye, skin & respiratory irritant
Sulfotep (ISO)	ABP	3689-24-5	-	0,1	-	-	-	Eye, skin & respiratory irritant; Cardio.; Sk; CNS
Sulphur hexafluoride	SA	2551-62-4	1000	6070	1250	7590	-	Warning properties unknown; Ineffective sorbents; Asphyxiant
Sulphuric acid (mist) Battery acid; Hydrogen sulfate; Oil of vitriol	EP	7664-93-9	-	0,05	-	-	-	Eye & skin irritant; The mist is defined as the thoracic fraction; Carc.
Sulfur dioxide	E	7446-09-5	-	2	-	5	100	Eye, skin & respiratory irritant

Colour code Type	For use against Other information
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	 Substance as specified by the manufacturer
Orange Reactor	Radioactive methyl iodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942.

Filter type Product code	P A AX B E K Hg SX							Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments
	Long-term		Short-term													
	ppm	mg.m ³	ppm	mg.m ³												
P3 50 00 48	Particle filters with RD40*1/7" thread							Sulphuryl difluoride Sulphuryl fluoride	SA	2699-79-8	5	21	10	42	1000	Eye irritant; Warning properties unknown
	P3	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)						Talc, respirable dust (Hydrous magnesium silicate) Steatite talc; Non-fibrous talc; dioxosilane;oxomagnesium;hydrate	P	14807-96-6	-	1	-	-	-	Eye and respiratory irritant
A2 50 01 56	Gas filters with RD40*1/7" thread							Tantalum Tantalum - metal and oxide dusts; Tantalum - metal fume	P	7440-25-7	-	5	-	10	-	Eye & skin irritant
		A2						Tellurium compounds (dusts and mists), except hydrogen telluride - as Te	P	13494-80-9	-	0,1	-	-	-	-
				B2				Terphenyls, all isomers o-Terphenyl; m-Terphenyl; p-Terphenyl; Mixed terphenyls; Diphenyl benzenes	P	26140-60-3	-	-	0,5	4,8	-	Eye & skin irritant
						K2		1,1,2,2-Tetrabromoethane Tetrabromoethane; Acetylene tetrabromide	SA	79-27-6	0,5	7,2	-	-	8	Eye, skin & respiratory irritant; Warning properties unknown; Sk; CNS
		A2		B2				Tetracarbonylnickel (as Ni) Nickel tetracarbonyl; Nickel carbonyl (as Ni)	SA	13463-39-3	-	-	0,1	0,24	7	Eye irritant; Poor warning properties; CNS
A2B2 50 01 58		A2		B2				Tetrachloroethylene Perchloroethylene; Perk	SA	127-18-4	50	345	100	689	500	Eye, skin & respiratory irritant; Carc.; CNS
A2B2E2 50 01 63		A2		B2	E2			1,1,1,2-Tetrafluoroethane (HFC 134a) Tetrafluoroethane; Norflurane	SA	811-97-2	1000	4240	-	-	-	Warning properties unknown
A2B2E2K2 50 01 69		A2		B2	E2	K2		Tetrahydrofuran THF; 1,2-Epoxybutane; 1,2-Butylene oxide Epoxy-butane; Oxolane	A	109-99-9	50	150	100	300	-	Eye, skin & respiratory irritant; Sk; CNS
A1P3 50 03 57	Combined filters with RD40*1/7" thread							Tetrasodium pyrophosphate Sodium pyrophosphate	P	7722-88-5	-	5	-	-	-	Eye & skin irritant
	P3	A1						Thallium, soluble compounds (as Tl) Thallium hydroxide; Thallium acetate; Thallium carbonate	P	7440-28-0	-	0,1	-	-	20 mg/m³	Sk
	P3	A3	AX					Thionyl chloride Sulphurous oxychloride; Sulphur oxychloride; Thionyl dichloride	EP	7719-09-7	-	-	1	4,9	-	Eye & skin irritant; Warning properties unknown
	P3			B2				Tin, metal fume	P	7440-31-5	-	2	-	4	400 mg/m³	Eye, skin & respiratory irritant
	P3					K2		Tin compounds, inorganic except SnH4) and metal oxides (as Sn)	P	-	-	2	-	4	400 mg/m³	Eye, skin & respiratory irritant
A2B2P3 50 01 67	P3	A2		B2				Tin compounds, organic, except Cyhexatin (ISO), (as Sn)	AP	-	-	0,1	-	0,2	-	Eye, skin & respiratory irritant; Sk
A2B2E2P3 50 01 64	P3	A2		B2	E2			Titanium dioxide - total inhalable / respirable dust Rutile; Anatase; Brookite	A	13463-67-7	-	10 4	-	-	-	Respiratory irritant; Carc.
A1B1E1P3 50 03 64	P3	A1		B1	E1			Toluene Toluol; Phenyl methane; Methyl benzene	A	108-88-3	50	191	100	384	2000	Eye, skin & respiratory irritant; Sk; CNS
A2B2E2K2P3 50 01 68	P3	A2		B2	E2	K2		p-Toluenesulphonyl chloride 4-Methyl-benzenesulfonyl chloride; Tosyl chloride	B	98-59-9	-	-	-	5	-	-
A2B2E2K2HgP3 50 01 66	P3	A2		B2	E2	K2	Hg	o-Toluidine o-Aminotoluene; o-Methylaniline; 2-Methylaniline	SA	95-53-4	0,2	0,89	-	-	100	Eye irritant; Poor warning properties; Blood; Cardio.; Carc.; Sk;
P R SL 30 00 10/2	Filters with TR-110 thread (AerGO® / D-Bug)							Tributyl phosphate, all isomers Tri-n-butyl phosphate; TBP	AP	126-73-8	-	5	-	5	125	Eye, skin & respiratory irritant
	PRSL	A1						1,2,4-Trichlorobenzene	P	120-82-1	1	-	5	-	-	Eye & skin irritant; Sk
	PRSL	A1		B1	E1			1,1,1-Trichloroethane Methyl chloroform	A	71-55-6	100	555	200	1110	1000	Eye, skin & respiratory irritant; CNS
A1P R SL 30 03 57	PRSL	A1						Trichloroethylene Ethylene trichloride; Triclene™	A	79-01-6	100	550	150	820	1000	Eye & skin irritant; Carc.; Sk
A1B1E1P R SL 30 03 64	PRSL	A1		B1	E1			Trichloronitromethane Nitrotrichloromethane; Chloropicrin; Nitrochloroform	SA	76-06-2	0,1	0,68	0,3	2,1	4	Eye, skin & respiratory irritant; Poor warning properties
P R SL 80 00 10/2	Filter for CleanAIR® Basic EVO (Basic 2000)							Triethylamine N,N-diethylethanamine	A	121-44-8	2	8	4	17	-	Eye, skin & respiratory irritant; Sk
	PRSL							Triglycidyl isocyanurate TGIC	AP	2451-62-9	-	0,1	-	-	-	Carc.
P R SL 56 00 10	Filter for CleanAIR® Asbest							Trimellitic anhydrite TMA (Trimellitic anhydrite); 1,3-dioxo-2-benzofuran-5-carboxylic acid	AP	552-30-7	-	0,04	-	0,12	-	Eye, skin & respiratory irritant; Sen.
	PRSL															

Each filter marked as P3 is approved also according to the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems

Colour code <i>Type</i>	For use against <i>Other information</i>
Brown A	Organic gases and vapours (boiling point above 65 °C) Class 1, 2, 3
Brown AX	Organic gases and vapours (boiling point at or below 65 °C) Single shift only; AX filters are only specified for one class
Grey B	Inorganic gases and vapours Class 1, 2, 3 Do not use against carbon monoxide
Yellow E	SO₂ and other acid gases Class 1, 2, 3
Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	 Substance as specified by the manufacturer
Orange Reactor	Radioactive methylodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

This table shows the colour coding of filters according to EN 143, EN 12941, EN 12942 and EN 14387. This information should help you to determine the appropriate filter type needed for the contaminant you are dealing with. Please note, that filters intended to be used in combination with powered air purifying respirators must comply with EN 12941 or EN 12942

Filter type Product code	P	A	AX	B	E	K	Hg	SX
Particle filters with RD40*1/7" thread								
P3 50 00 48	P3	50 02 49 (ZERO) 50 42 49 (ZERO lite) 50 40 48 (P3 lite)						
Gas filters with RD40*1/7" thread								
A2 50 01 56		A2						
B2 50 01 61				B2				
K2 50 01 59						K2		
A2B2 50 01 58		A2		B2				
A2B2E2 50 01 63		A2		B2	E2			
A2B2E2K2 50 01 69		A2		B2	E2	K2		
Combined filters with RD40*1/7" thread								
A1P3 50 03 57	P3	A1						
A2P3 50 01 57	P3	A2						
A3AXP3 50 01 70	P3	A3	AX					
B2P3 50 01 62	P3			B2				
K2P3 50 01 60	P3					K2		
A2B2P3 50 01 67	P3	A2		B2				
A2B2E2P3 50 01 64	P3	A2		B2	E2			
A1B1E1P3 50 03 64	P3	A1		B1	E1			
A2B2E2K2P3 50 01 68	P3	A2		B2	E2	K2		
A2B2E2K2HgP3 50 01 66	P3	A2		B2	E2	K2	Hg	

Filters with TR-110 thread (AerGO® / D-Bug)								
P R SL 30 00 10/2	PRSL							
A1P R SL 30 03 57	PRSL	A1						
A1B1E1P R SL 30 03 64	PRSL	A1		B1	E1			

Filter for CleanAIR® Basic EVO (Basic 2000)								
P R SL 80 00 10/2	PRSL							

Filter for CleanAIR® Asbest								
P R SL 56 00 10	PRSL							

Each filter marked as P3 is approved also according the EN 12941 and EN 12942 as P R SL for use in combination with CleanAIR® PAPR systems

Substance Synonym	Filter Type	CAS Number	Workplace exposure limit				IDLH value	Comments
			Long-term		Short-term			
			ppm	mg.m³	ppm	mg.m³		
Trimethylbenzenes, all isomers or mixtures Mesitylene; Pseudocumene; Hemimellitene	BP	25551-13-7	25	125	-	-	-	Eye & skin irritant
3,5,5-Trimethylcyclohex-2-enone 3,5,5-Trimethyl-cyclohexenone; Isophorone	B	78-59-1	-	-	5	29	800	Eye, skin & respiratory irritant; CNS
Trimethyl phosphite Phosphorous acid trimethylester; Methyl phosphite	P	121-45-9	2	10	-	-	-	Eye, skin & respiratory irritant
2,4,6-Trinitrotoluene (TNT) TNT; Trinitrotoluol; Trinitrotoluene; sym-Trinitrotoluene	P	118-96-7	-	0,5	-	-	1000 mg/m³	Skin irritant; Sk
Tri-o-tolyl phosphate Triorthocresyl phosphate; o-Tritolyl phosphate; tricresylphosphate	BP	78-30-8	-	0,1	-	0,3	40 mg/m³	Sk; CNS
Triphenyl phosphate Phenyl phosphate	BP	115-86-6	-	3	-	6	1000 mg/m³	-
Triphenyl phosphate / Tungsten and compounds Phenyl phosphate (heat involved); TPP (heat involved)	BP	7440-33-7	- -	1 5	- -	3 10	1000 mg/m³	Eye, skin & respiratory irritant
Turpentine Gum spirits; Turps; Wood turpentine; Gum turpentine	BP	8006-64-2	100	566	150	850	1500	Eye & skin irritant
Vanadium pentoxide Divanadium pentoxide; Vanadic anhydride; Vanadium oxide; Vanadium(V) oxide	BP	1314-62-1	-	0,05	-	-	70 mg/m³	Eye, skin & respiratory irritant; Carc.
Vinyl acetate 1-Acetoxylethylene; Ethenyl acetate	AP	108-05-4	5	17,6	10	35,2	-	Eye, skin & respiratory irritant
Vinyl chloride Chloroethylene; Chloroethene; Monochloroethylene; VC; VCM	SA	75-01-4	3	7,8	-	-	-	Eye, skin & respiratory irritant; Poor warning proper- ties; Carc.
Vinylidene chloride 1,1-Dichloroethylene; 1,1-Dichloroethene	SA	75-35-4	10	40	-	-	-	Eye, skin & respiratory irritant; Poor warning properties; Single use filter - not available for PAPR
Wool process dust	P	-	-	10	-	-	-	-
Xylene, o-,m-,p- or mixed isomers Dimethylbenzenes	A	1330-20-7	50	220	100	441	1000	Eye, skin & respiratory irritant; Sk
Yttrium	P	7440-65-5	-	1	-	3	-	Eye irritant
Zinc chloride, fume	P	7646-85-7	-	1	-	2	4800 mg/m³	Eye, skin & respiratory irritant
Zinc distearate, inhalable and respirable Synpro stearate; Zinc distearate	P	557-05-1	- -	10 4	- -	20 -	-	Eye, skin & respiratory irritant
Zirconium compounds (as Zr)	P	7440-67-7	-	5	-	10	500 mg/m³	-

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Green K	Ammonia and its organic derivatives Class 1, 2, 3
White P	Particles Class 1, 2, 3
Red Hg	Mercury Must include P3 particle filter Maximum use time 50 hours Special filter are only specified for one class
Blue NO	Oxides of nitrogen Must include P3 particle filter Single use only; Special filter are only specified for one class
Violet SX	 Substance as specified by the manufacturer
Orange Reactor	Radioactive methyliodide and radioactive particles Must include P3 particle filter
Compressed air supply SA	The air is taken from a source of compressed air and delivered to CleanAIR® Pressure Flow Master / CA Pressure For Mask system, which enables regulation of the airflow delivered through an air hose into a protective mask or a hood.

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