











Choosing the right filter

Contaminants can appear in various forms: as aerosols (such as dust, fog, fibres, smoke, micro-organisms) or as gases or vapours. The respiratory protection you choose depends on which type or combination of types of substances you are dealing with.

The only way to fully protect yourself is to select the right type of respiratory filter for the respective contaminant. The table below shows the colour code for filters defined by the EN 14387 industrial standard:

FILTER COLOUR CODE SYSTEM

Colour code	Filter type	Main application areas
	AX	Gases and vapours from organic compounds, boiling point <65°C
	A	Gases and vapours from organic compounds, boiling point >65°C
	B	Inorganic gases and vapours, e.g. chlorine, hydrogen sulphide, hydrocyanic acid
	E	Sulphur dioxide, hydrogen chloride
	K	Ammonia and organic ammonia derivatives
	CO	Carbon monoxide
	Hg	Mercury vapour
	NO	Nitrous gases including nitrogen monoxide
	Reactors	Radioactive iodine, including radioactive methyl iodide
	P	Particles

Example: A2B2-P3



This filter is suitable for use against:

A – gases and vapours from organic compounds, boiling point >65°C up to concentrations in the range of filter class 2 (max. 5,000 ppm) and **B** – gases and vapours from inorganic substances, such as chlorine, hydrogen sulphide and hydrocyanic acid up to concentrations in the range of filter class 2 (max. 5,000 ppm) and **P** – particles in concentrations up to filter class 3.

Differentiating between filter types

Filters are classified according to their capacity (gas filters) or their efficiency (particle filters). The particle filter class indicates how efficiently particles are filtered from the ambient air.

Class 1: 80%, Class 2: 94%, Class 3: 99.95%

Filter type	Filter class	Protection against	Maximum permissible concentration of contaminants
Gas filters		Gases and vapours capacity:	30 x limit value with halfmasks / 400 x limit value with full-face masks; maximum:
	1	low	0.1 vol% (1,000 ppm)
	2	medium	0.5 vol% (5,000 ppm)
	3	high	1.0 vol% (10,000 ppm)
Particle filters		Particle efficiency (filtration efficiency):	
	1	low	4 x limit value
	2	medium	10 x limit value with halfmasks / 15 x limit value with full-face masks
	3	high	30 x limit value with halfmasks / 400 x limit value with full-face masks
Combination filters		Gases and vapours capacity:	
	1-P2	Corresponding combination of gas particle filters	Corresponding combination values
	2-P2		
	1-P3		
	2-P3		

Values are applicable in Germany under DGUV guideline 112-190 and EN 529.

According to EN143:2006/A1 particle filters must be labelled to indicate whether they are reusable. Filters can be used only for one work shift = **NR** (Non-Reusable); Filters can be used for more than one work shift = **R** (Reusable)

Warning: Never use a filtering device: in conditions with low oxygen levels, e.g. O₂ levels below 17 vol% (applicable in Germany); in poorly ventilated spaces or confined spaces such as tanks, small spaces, tunnels or ships; in conditions in which concentrations of contaminants are unknown or immediately life-threatening or hazardous to health; in conditions in which concentrations of contaminants are greater than the maximum permissible concentration and/or filter efficiency/capacity.