> > > RESPIRATORY PROTECTION




SPERIAN

Protection you can trust

CONTENTS

Recommendations

Professional Guide

Disposable Respirators

Reusable Respirators

Escape Masks

Power Assisted Equipment

Supplied-Air Equipment

Respiratory Protection Guide

Respiratory Protection

3 PPE categories

Level 1
- Items of simple design
- CE self certification

Level 2
- Items of intermediate design
- Certification by notified body

Level 3
- Items of complex design
- Certification by notified body
- Quality assurance
- Compulsory maintenace and training

The lack of oxygen: a fatal risk

- **Oxygen is vital for the human respiratory system.**
- **The concentration of oxygen in the ambient air will principally define the choice of respiratory equipment needed: isolating or filtering.**

Respiratory protection devices fall into PPE Class 3: Protection against major hazards

Class 3 respirators are designed and manufactured for the following purposes:

> To filter and purify the ambient air and thereby protect the user against solid and liquid aerosols, and/or gases and vapours

Or...

> To fully isolate the user from the ambient air and thereby offer protection against a wide range of contaminants

Offering protection from all the potential hazards involved

Filtering devices against aerosols or gases

Filtering devices purifying the ambient air

- Air Purifying Respirators (APR) Negative pressure
- Powered Air Purifying Respirators (PAPR) Positive pressure

Isolating devices that are autonomous (Self Contained Breathing Apparatus)

See the Sperian Respiratory Protection France catalogue

Supplied Air Respirators (SAR)

Isolating devices with a separate air source (positive pressure system)

Main criteria in choosing respiratory equipment

> Oxygen concentration

> Knowledge of the toxic substance

> Toxic odour

> Explosive atmosphere (IS)

O_2 > 17 %
- Contaminant parameters known
- Detectable odour

→ **Filtering devices**
Respirator and/or filtering device to purify the ambient air

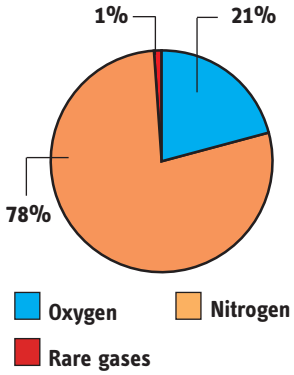
O_2 ≤ 17 %
- Uncertainty about the hazard involved
- Non-detectable odour

→ **Isolating devices**
Respirator + device to provide air

ATEX hazard
(Intrinsically Safe)

See Selection Guide page: 68

Air composition:



- Single-use filtering respirator (≤ 8 hours)
- Half mask with plastic filters
- Full mask with filter (aluminium or plastic)
- Particulate Filters
- Combined gas & particulate filters

+ motorised fan

- Half mask
- Full mask
- Hood or visor
  + motorised fan
  2 filters or 3 filters

- Half mask
- Full mask
- Headpiece with visor
  + supplied air device controlling clean air from a separate source

Assessment of the hazards by exposure

> Oxygen concentration

> Nature, form and effects of the contaminants

> Knowledge of the probable contaminant (CAS) concentrations and the Occupational Exposure Limit for 8 hours (OEL/WEL) and for 15 minutes (OEL Short term)

> Knowledge of the other related hazards (Risk of Explosive Atmosphere)

> What will be the respirator's service lifetime?

Regulations - Standardisation

What is PPE?

(Personal Protective Equipment)

" All devices or means to be worn or held by someone in order to protect him against one or several hazards likely to threaten his health as well as his safety at the workplace, as well as any other addition or accessory intended for this purpose "
(Article R.233-83-3 of the Labour Code).

> Protection against Major Hazards: Respiratory protective devices are PPE Class 3

- The hazard may be serious, irreversible or fatal.
- The design is complex as defined by the directive.
- Certification is provided by an approved body with a CE-type examination combined with a quality control system for production.
- Marking is regulated, with additional markings according to the standard in force at the time of the product's certification.

> Two important European Directives concerning safety at the workplace have been adopted:

- ***Directive 89/656/CEE of 30 November 1989,*** on the use of PPE by workers.
  It stipulates the employers' obligations.
  - The PPE required for work must be provided free of charge.
  - PPE must comply with the legal provisions in force.
  - The employer must have, at its disposal, the information needed for proper use of the product.
  - The rules and conditions of use must be defined.
  - The user must be informed, and training provided.

- ***Directive 89/686/CEE of 21 December 1989,*** on the design, market entry, free circulation of PPE within the European Union. This Directive has evolved and been modified by 95/58/CEE.
  - The essential requirements to be met by PPE in order to be put on the European market
  - The specific texts provide a classification with regard to hazards.

> Additional involvement on the part of the PPE manufacturer: Standardisation

Drawn up by a team of experts, the standards define the minimum requirements and tests required for the different types of PPE. The standards are a complement to directive 89/686/CEE. The latter can be used alone to put products on the market, when no standard has been defined.

The standards are not rigid; they can evolve according to needs, technological optimisation and modifications linked to proved effectiveness.

Main Standards

SINGLE USE RESPIRATORS	
EN149	*Filtering half-masks (single use) for protection against particulates. There are three protection classes: FFP1, FFP2 and FFP3.*
EN405	*Filtering half-masks with valves for protection against gases or against gases and particulates.*
REUSABLE RESPIRATORS	
EN140	*Half and quarter masks, reusable, for use with filters and respiratory protection devices (SCBA with compressed supplied air, assisted ventilation, etc.)*
EN136	*Full-face masks, for use with filters and respiratory devices (SCBA and compressed air-line devices, powered assisted devices,etc.)*
EN148	*Face pieces connector threading requirements. This standard describes the different types of PPE connections and respirator filters. The most commonly used is standard EN148-1, which defines RD40 x 1/7" threading.*
EN143	*Particulate filters for negative pressure respiratory devices. They are effective against dust and fibres, and most types of smoke, liquid aerosols and bacteria. Suitable for half-masks in compliance with EN140 or full-face masks EN136. There are three classes: • P1: Low efficiency • P2: Medium efficiency • P3: High efficiency.*
EN141 or EN14387	*Gas/vapour filters and combined filters for respiratory devices with negative pressure. They are classified according to their type and class (See chart on page 7). There are three classes that correspond to a difference in the filter capacity and a maximum concentration of the toxic substance authorised in the polluted air • Class 1: 0.1% • Class 2: 0.5% • Class 3: 1%.*
EN371 or EN14387	*AX gas filters and combined filters against organic compounds with a low boiling point (<65°C). These cartridges are for single use.*
POWERED ASSISTED DEVICES	
EN12941 (e.g EN146)	*Powered assisted filtering devices incorporating helmets or hoods against particulates, gases and vapours. There are three classes for all the equipment: TH1, TH2, TH3.The particulate filtering cartridges are marked: TH1P, TH2P, TH3P*
EN12942 (e.g EN147)	*Continuous flow compressed air-line breathing apparatus. Four light duty categories: 1A, 2A, 3A, 4A, four heavy duty categories: 1B, 2B, 3B, 4B.*
COMPRESSED AIR-LINE DEVICES	
EN1835	*ALight-duty construction compressed air-line breathing apparatus incorporating a hood or a helmet. Three protection levels: LDH1, LDH2, LDH3.*
EN12419	*Light-duty construction compressed air-line breathing apparatus incorporating a full-face, half or quarter mask. Three protection levels: LDM1, LDM2, LDM3.*
EN270	*Compressed air-line apparatus with hoods. A single level of protection is required and a warning for a low flow must be provided.*
EN139	*Compressed air-line apparatus with full-face masks, half-masks or mouthpiece assembly.*
SELF COMPRESSED AIR DEVICES	
EN137	*Self-contained open-circuit compressed air breathing apparatus.*
EN 145	*Self-contained close-circuit breathing apparatus compressed oxygen or compressed oxygen-nitrogen type.*
EN1146	*Self-contained open-circuit compressed air breathing apparatus incorparating hoods.*
EN402	*Self-contained open-circuit compressed air breathing apparatus with full-face mask or mouthpiece assembly, for escape.*

Sperian Protection products are more effective than what has been defined in the standards.

Reminder: Basics of filtration

Use an isolating respirator when:

- the concentration in oxygen is below 17%
- the concentration of contaminants is unknown
- filtration is not suitable for the contaminants present
- the contaminant has insufficient self-warning properties (no odour)

See our guide to respiratory protection on page 68

WATCH OUT FOR THE TRAP

Here's a tip for you: combined safety

- In over 70% of cases, the form of the toxic substance is combined: aerosols and vapour gases.It is necessary to think carefully about the potential need for combination filters giving protection against particulates and gas/vapours.

Selection criteria

- Oxygen concentration
- Knowledge of the toxic substance
- Odour of the toxic substance
- Explosive Atmosphere (IS)

Filter Categories

- Protection against gas/vapours:

Class 1 for a gas content less than 0.1% in volume (cartridges)

Class 2 for a gas content between 0.1% and 0.5% in volume (cartridges)

Class 3 for a gas content between 0.5% and 1% in volume (canisters of a large capacity worn at the waist or chest)

- Protection against particulates, dust and aerosols:

Class 1 (P1 or FFP1) for protection against coarse, solid particulates (low toxicity)

Class 2 (P2 or FFP2) for protection against solid and/ or liquid aerosols (low to average toxicity)

Class 3 (P3 or FFP3) for protection against solid and/or liquid aerosols (high toxicity)

Classification of toxic contaminants

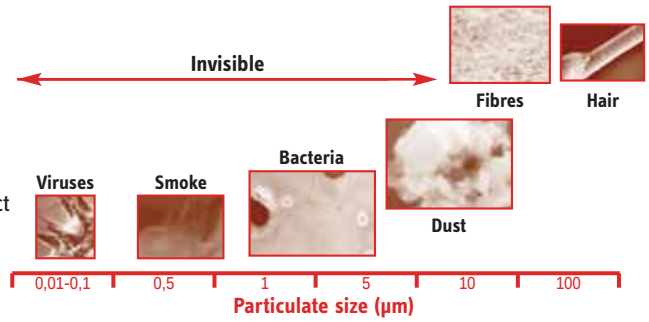
Solid and liquid aerosols may be of a different nature

▶ Unpleasant ▶ Causing allergies or irritation ▶ Causing lung damage

Whatever the size of the particulate, the hazards may be greater according to the **time of exposure.**

The increasing use of liquid aerosols requires the use of suitable protection according to the nature of the aerosol used and the composition of the product applied.

The size of the aerosol is one of the factors which determines the choice of protection.

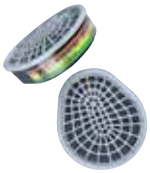


Gases - Vapours: for each type of contaminant there is a dedicated filter

A	Gases and organic vapours, including boiling points above 65°C. e.g.: Solvents, hydrocarbons, etc.		
AX	Gases and organic vapours, including boiling points below 65°C.		
B	Gases and inorganic vapours. e.g.: chlorine, cyanides, formaldehyde, hydrochloric acid, etc.		
E	Gases and acid vapours. e.g.: sulphur dioxide, etc.		
K	Ammonia and amine organic by-products.		
P	Particulates, dust.		
CO	Carbon monoxide.	NOx	Nitrogen monoxide, azote oxide, nitrous vapour
Hg	Mercury vapour	I	Iodine.

Filters for particulates, gases/vapours and combined (particulates + gases/vapours)

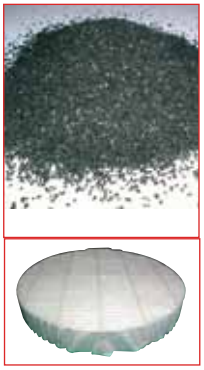
Sperian Protection offers a wide range of filters developed by state-of-the-art technology, and as a result of the expertise of Sperian.
Each filter range meets a specific need.

Brand	Type	For
 Page 37	• RD40 connector • Plastic case • Gases/vapours • Particulates-gases/vapours • Particulates	• Single cartridge • Allmasks with an RD40 connector (EN 148-1) (e.g.: OPTIFIT, PANORAMASQUE, COSMO, etc.)
 Page 36	• RD40 connector • Aluminium case • Gases/vapours • Particulates-gases/vapours • Particulates	• Single cartridge • All masks with an RD40 connector (EN148-1) (e.g.: OPTIFIT, PANORAMASQUE, cosmo...) • PAPR: ZEPHYR
T-Series  Page 33	• Click Fit safe connection • Gases/vapours • Particulates-gases/vapours • Particulates	• Twin cartridges • For masks: VALUAIR, Premier, MX/PF F950 Optifit Twin
7000 Series  Page 30	• Bayonet connector • Gases/vapours • Particulates-gases/vapours • Particulates	• Twin cartridges • For the 7000 Series mask
Single cartridge  Page 29	• Specific screw-on connector • Gases/vapours • Particulates-gases/vapours • Particulates	• Single cartridge • For the Sperian single cartridge mask

Sperian Protection filters

Why buy an RD40 filter from Sperian Protection?

Sperian Protection has been manufacturing particulate and or gas/vapour filters for several decades. Respectively, Sperian have acquired significant experience and incomparable know-how.



- **The quality of the coconut derived charcoal used** enables optimum a bsorption. The filtering capacity is higher than that required of standard EN 141 (gas and combined filtration) and EN 143 (mechanical-type particulate filtration). Breathing resistance is low due to the quality of the paper used, this optimises respiratory comfort and reduces fatigue.

- **Watertight Test**
This has an impact on the user's safety. Single cartridge filters enable an easy negative pressure test to be performed, due to the size of its external opening that is easily covered by a hand wearing a glove, without using any additional device.

- **Single cartridge filters**
They are equipped with a standardised RD40 connector according to EN 148-1. They can be used with masks equipped with an RD40 connector.

- **Single cartridge filters**
They provide double protection due to the provision of two watertight plugs. This protection ensures a storage period of five years for A-type filters, and for four years for the others.The life cycle of P3 filters is 11 years.

- **The Sperian Protection filter range is the largest on the market** and meets all currently known needs. Special filters are manufactured for the nuclear industry, army and law enforcement protection.

- **The Sperian range of plastic filters** has been designed for chemical environments without metal.
When electronic security checks are necessary in addition to respiratory safety (metal detecting equipment).
The Sperian plastic filter can also be widely used in traditional applications.
Waste management is also facilitated.

Our filters can be sold by the unit

Request for Assistance

How to choose suitable respiratory protection?

Key questions

What is the oxygen level at the workplace?

- PAPR or APR when: O_2 > 17 % YES NO
- SAR or SCBA when: O_2 < 17 % YES NO

What is the type of contaminant?

Contaminant name	CAS No.*	Chemical formula	Estimated concentration (indicate the unit)	Form (gas, liquid or solid aerosols)

Is the product in powder form? YES NO

Does the product have a detectable odour? YES NO

Lifespan of respiratory devices?

- Day: YES NO
- Half-day: YES NO
- 1 hour: YES NO
- < 1 hour: YES NO

Explosive atmosphere (IS)?

YES NO If so, which type:.....

Conditions for handling and using contaminants

.....

.....

.....

Send this request for assistance to your Sperian Protection contact

Company:..... Contact:.....

Addres:.....

Telephone:..... E-mail:.....

***Each contaminant has been identified by a CAS number indicated on all material safety data sheets.**

- CAS: a CAS number defines the chemical entity
- WEL (OEL): Occupational Exposure Limit for 8 hours
- WEL (OEL Short term): Occupational Exposure Limit for 15 minutes
- IDLH: Immediately Dangerous to Life or Health

Ask for our CD-Rom "Guide to Respiratory Protection"

Product Selection Guide

Product Selection Guide according to the Protection Factor (PF): gases-vapours

* PAPR: ZEPHYR

Protection Factors		Authorised device (by increasing level of protection)						
NPF x OEL	APF x OEL							
10	10	• Helmet or hood with PAPR of Class TH1	 Ref: 17 932 61*					
50	20	• Helmet or hood with PAPR of Class TH2 and filters • Half-mask	 Ref: 17 932 62*	 Ref: 17 932 60*	 Ref: 17 932 63*	 Ref: 17 932 65*	 Ref: 10 015 58	 Ref: 17 250 35
200	20	• Mask or half-mask with PAPR of Class TM2	 Ref: 17 932 02*					
1 000	20	• Full mask with combined filters	 Ref: 17 150 11					
2 000	40	• Full mask • Full mask with PAPR of Class TM3	 Ref: 17 150 11	 Ref: 17 103 94	 Ref: 17 105 01	 Ref: 17 932 30*	 Ref: 17 932 33*	 Ref: 17 932 03*

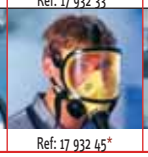
Product Selection Guide according to the Protection Factor (PF): Supplied Air Respirators

Protection Factors		Authorised device (by increasing level of protection)			
NPF x OEL	APF x OEL				
50	20	• Half-mask with supplied air, with demand valve on request	 Ref: 17 629 86	 Ref: 17 630 43	 Ref: 10 016 44
100	40	• Helmet or hood with supplied air (continuous flow)	 Ref: 10 016 45	 Ref: 10 016 46	 Ref: 10 016 47
2000	40	• Full mask with spontaneous breathing • Full mask with supplied air	 Ref: 17 525 00	 Ref: 17 630 41	 Ref: 17 630 41

WEL is the equivalent of OEL for U.K.

For SCBA, see the Sperian Respiratory Protection France catalogue.

Product Selection guide according to the Protection Factor (PF): solid and liquid aerosols

Protection Factors		Authorised device (by increasing level of protection)								
NPF x OEL	APF x OEL									
4,5	4	• Disposable filtering half-mask FFP1	 Ref: 10 055 80	 Ref: 10 055 82	 Ref: 10 055 91	 Ref: 10 055 93	 Ref: 10 055 98	 Ref: 10 072 21	 Ref: 10 072 22	
12	10	• Disposable filtering half-mask FFP2 • Half-mask and P2 filter • Helmet or hood with PAPR of Class TH1 P	 Ref: 10 055 84	 Ref: 10 055 86	 Ref: 10 055 88	 Ref: 10 055 95	 Ref: 10 015 73	 Ref: 10 015 58	 Ref: 17 932 61	
50	20	• Disposable filtering half-mask FFP3 • Half-mask and P3 filter	 Ref: 10 056 02	 Ref: 10 056 30	 Ref: 17 250 35	 Ref: 10 015 73	 Ref: 10 015 58	 Ref: 17 932 53*		
50	20	• Helmet or hood with PAPR of Class TH2 P	 Ref: 17 932 55	 Ref: 17 932 52	 Ref: 17 932 50					
200	20	• Mask or half-mask with PAPR of Class TM2 P	 Ref: 17 932 02*	 Ref: 17 932 05*						
1000	40	• Full mask with P3 filter	 Ref: 17 150 11	 Ref: 17 103 94	 Ref: 17 105 01	 Ref: 10 035 29	 Ref: 17 152 41			
2000	40	• Full mask with PAPR of Class TM3 P	 Ref: 17 932 30*	 Ref: 17 932 33*	 Ref: 17 933 12*	 Ref: 17 933 13*				
2000	40	• Asbestos hazard	 Ref: 17 932 21*	 Ref: 17 932 45*	 Ref: 17 931 60*	 Ref: 17 930 63*	 Ref: 17 931 59*	 Ref: 17 930 69*		

The Protection Factors (PF) indicated above are the minimum standard values

WEL-OEL: Occupational Exposure Limit for 8 hours
WEL-OEL: Occupational Exposure Limit (Short term) for 15 minutes
IDLH: Concentration with exposure giving rise to an immediate fatal hazard (Immediately Dangerous to Life or health air concentration values)

WEL is the equivalent of OEL for U.K.

* PAPR: ZEPHYR

PROFESSIONAL GUIDE

Our recommendations:

Building and Construction Industries

The key to protection in these industries: protection against dust

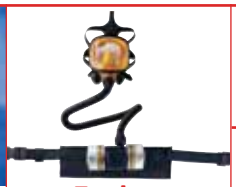
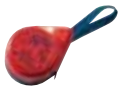
SITUATION	 4000 Series 5000 Series* P. 22	 Valuair* P. 31	 Optifit* P. 34	 Zephyr* P. 43	 Airvisor* P. 54	 MC91/95* P. 60
Concrete (powder)	P2/P3		P3 if intensive work	Cement work		
Milling, sanding, cutting	P2	With P2 or P3 filters	If a risk exists for the eyes	Intensive work	Intensive work or the need for supplied air	Closed area with limited ventilation
Plastering, plaster dust	P2/P3	With P3 filters				
Wood, sawing	P2	With P2 or P3 filters				
Outdoor paint	P2 (Ref. 5211) P2 OV (Ref. 5251)	Combined filters (ABP3)	Caution with solvents		Intensive work or the need for supplied air	
Indoor paint	When the premises are well ventilated With P2 OV	As box above	For high levels of solvents		Intensive work or the need for supplied air	Closed area with limited ventilation
Roofing	Cutting tiles or slates (Ref. 5110)	Cutting tiles or slates with P3 filters				
Pitching/Tarring		For organic vapours	If high levels of solvents are present	When work is long duration		
Insulation (fibreglass)	Type 5321 or 4311	For intensive use with P3 filters				
Treatment (wooden beams)	Outdoor work (Ref. 5240)	Indoor work (well ventilated)	When risk for eyes and solvent		Intensive work or the need for supplied air	Closed areawith limited ventilaton
Gluing (floor, wall, joint)		If solvent is present	If solvent is present			
Wall treatment	Simple splashes P1		If organic solvent is present	When work is long duration		Closed area with limited ventilaton
Metal (cutting, milling, welding)	Small jobs (Ref. 5251)	Gas protection if intense vapour (B-B) + eye protection		Zephyr with OSE Ref. 17 930 19	Welding version available where there is a need for supplied air	
Asbestos	Small work P3 compulsory	Small work P3 compulsory	Small work P3 compulsory	Special versions available for asbestos removal		Special versions available for asbestos removal MC91
Decontamination Site			If known contaminant			Multiple contaminants with unknown concentrations

* Compatible with helmet and goggles

Chemical and Petrochemical Industries

It is imperative that selecting a cartridge must be done with full knowledge of the CAS Number.

*Refer to Sperian Respiratory Protection France catalogue

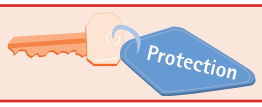
SITUATION	 Panoramasque P. 34	 Zephyr P. 43	 Evamasque - P. 42  Opengo - P. 42	 Fenzy Bio Scape On request	 Autonomous device*
Liquid aerosols (toxic cloud)	A full-face mask is required given the likely association with a risk to the eyes	For work in (Tox) < WEL (OEL for 8h) or temporary action (Tox) < WEL (OEL Short term for 15 min)	Solution for mass evacuation	For evacuation of high risk areas with protection for 10 or 20 min. (depending on specification)	
Gas-vapours in closed area					Without guarantee of oxygen concentration, the only solution
Gas-vapours in open area	The most widely used type of protection	With a regulated valve to optimise comfort and real world protection	Solution for mass evacuation	For evacuation of high risk areas with protection for 10 or 20 min. (depending on specification)	For gas with high risk and heavier than air If multiple contaminant
Gas-vapours in open area but with high toxic risk	For evacuation in case of an accident with a JOSS bag	Possible, but in-depth knowledge of risk is required	Possible, but with a risk to the eyes, choose Casyvac Limited	A better solution	The best all round solution
Risk of explosion	To be determined according to areas 1/2/3 (ATEX)	ZEPHYR IS (Intrinsically Safe) (ATEX)			According to your specific and known needs
Gas leak	Minimum with an ABEK2P3 cartridge		For mass evacuation	For evacuation of staff close to the area	The best all round solution

Medical and Pharmaceutical

Protection against aerosols (electrostatic for first intention protection)

SITUATION	 4000 Series 5000 Series* P. 22	 MX/PF F950 P. 43	 Optifit P. 34	 Zephyr P. 43	 Airvisor P. 54	 MC91/95 P. 60
Handling powder	The simplest protection at low levels	With a P3 mechanic filter, this is the solution (in the absence of risk for eyes)	With a P3 filter for basic powder or strong acid	For long-term work	Intensive work or the need for supplied air	Intense chemical hazard (assessed according to the CAS)
Handling liquid	Against splashes and aerosols of low intensity	For aerosols with a known formula	Aerosols with risks to the skin and eyes Think of associated vapour hazards	For work in an unknown contaminated area (P3)	Intensive work or the need for supplied air	
Exposure to sublimated substances		For work with protection of fume cupboard	Laboratory work combined with suitable filters			Factory work
Exposure to toxic substances (measured concentration in oxygen (>17%) Exposure to gas-vapour (equipment decontamination)		Type of disinfectant, e.g. glutharaldehyde (ABEKP3)	Type of disinfectant, e.g. glutharaldehyde with an effect on the eyes (ABEKP3)	Work in a decontamination area		Isolation when working in a closed area with limited ventilation
Exposure to aerosols containing bacteria or viruses: the aerosol is a vector of contamination of respiratory passages and surfaces	1st intention protection (P2 without valve to avoid cross-contamination (ARS) and aviary virus	Care and protection of staff (mechanical P3 filter)	In case of a risk to the eyes, mechanical P3 filter	For autonomy and lasting protection (hospital air duct)		Viruses, unknown bacteria or major hazards
Work in 1000 area or less (clean room)	Protection against controlled particles in the atmosphere (P2 without valve)	Work station with hazard for worker	To avoid any contamination on the part of the worker			
Unknown or poorly known hazard	1st intention, P3 with valve		1st intention, when available with NBC filter			For installed network
Evacuation of high risk areas	1st intention, P3 with valve	Evamasque Hood Casyvac	1st intention, with NBC filter	Evacuation in excessive pressure (cradle, e.g.)		

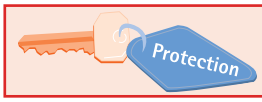
Automotive Manufacturing and Maintenance



Filtration against aerosols. Spraying of isocyanate based paints requires the use of supplied air equipment

SITUATION	 4000 Series 5000 Series P. 22	 Valuair - P. 31  Freedom - P. 28	 Optifit P. 34	 Zephyr P. 43	 Airvisor P. 56-58	 MC95 P. 60
Dust in workshop	P2 or P3 according to particle size	More comfort with the P3 mechanical filter	For risks to the eyes			
Machining/Sanding/ Boring	P2 or P3 according to the metal	Reusable product with the mechanical P3 filter	Choose polycarbonate screen if risk of impact		Intensive work or the need for supplied air	Pano with welding screen
Welding (fumes)	At least P2 with valve (+ odour prevention) (ref. 5251)		Welding screen on Pano with AB2P3 filter	With welding screen on Pano or OSE Ref: 17 930 19	Welding versions are available	Pano with welding screen
Milling	Small works	P3 filter	Full face protection with a P3 filter		Intensive work or the need for supplied air	
Painting with isocyanates based two-pack paints					The ONLY valid solution for isocyanates in a spray booth	
Solvent (paint, glue)		Small works Filter combined according to product (CAS)	If there is a need for eye protection		Intensive work or the need for supplied air	
Aerosols (oily liquid)	First line of defence P2 OV		Constituted aerosol: work in factory P3 filter then adapted according to the toxic substance			
Oil changes/repairs, odours (organic liquids)	P2 OV with valve	Associated with goggles and A2P3 if risk of splashing				
Carbon monoxide	The CA filter is only used for a short time (15 min). The supplied air respirator with the reference. MC95 can be a solution. See the Sperian Respiratory Protection France catalogue.					
Work in petrol station (maintenance, handling during tank filling (petrol, diesel)	Small station maintenance work	Disinfection of the station (according to the product)	Tank filling. Watch out for hazard-Filter A2P3 IS (Intrinsically Safe)			

Painting and Surface Treatment



Protection against liquid and solid aerosols combined with specific gases-vapours

SITUATION	 4000 Series 5000 Series P. 22	 Valuair - P. 31  Freedom - P. 28	 Optifit P. 34	 Zephyr P. 43	 Airvisor P. 54	 MC95 P. 60
Manufacture of paints and solvents		Handling of raw materials IS area ? (Intrinsically Safe)	Bulk handling of high risk products Gas cartridge according to CAS IS area? CAS: WEL (OEL)	Longer duration work	Intensive work or the need for supplied air	If need for insulant if OEL (Short term) for 15 min very high
Varnish manufacture		Handling polyurethanes and by-products Gas cartridge Suitable P3 IS area	If there is a risk of damage to the eyes IS area? CAS: WEL for 8 hours - OEL (Short term) 15 min	For work at station in atmosphere CAS: WEL for 8 hours - OEL (Short term) 15 min	Intensive work or the need for supplied air	When VLE very high OEL (Short term) for 15 min
Brush painting in ventilated area	P2 0V respirator against odours	Work above the painted area	When risk for the eyes			
Brush painting in closed area (ventilated cabin)	Choice of P2 when WEL (OEL) not reached and O^2 >17 %	The simplest choice when O^2 >17 %. Choice of P3 gas filter according to CAS	For additional eye irritation	Cleaning of cabins with solvent: need for mobility and autonomy	Intensive work or the need for supplied air	Need for very high protection
Electrostatic painting	Surveillance area: P2 or P3	With P3 protection (adapted according to toxic substance -heavy metal)			Recommended product	
Roller painting	P3 or P3 0V	For solvent A2P3 for cyanoacrylate AB2P3	Work below the painting area with disposable visor			
High pressure spray painting	Minimum P2 0V	With a P3 gas adapted and gas protection according to the CAS		Cleaning of paint cabins	The ONLY valid solution if paint is isocyanate based	
Outdoor wood treatment	P2 0V with valve	According to the solvent				
Wood treatment under frame	P2 0V for well ventilated area and O^2>17 %	With P3 gas filter		With P3 gas filter IS area		
Varnish with solvent (alcohol base)	P2 0V for well ventilated area and O2 >17 %	With P3 gas filter if O2 >17 % CAS: WEL for 8 hours - OEL (Short term) 15 min		Intensive work on large surfaces		Recommended solution for industrial pre-varnishing
Varnishes with a water base	P2 for well ventilated area O^2 >17 %	P3 for well ventilated area O^2 >17 %		Intensive work on large surfaces	Intensive work or the need for supplied air	

Timber and Woodworking Industries

For protection against dust, and wood treatment products requiring additional gas-vapour protection

SITUATION	 4000 Series 5000 Series P. 22	 7000 Series P. 30	 Optifit P. 34	 Zephyr P. 43	 Airvisor P. 54	 MC91/95 P. 60
Work in woods	P2 recommended for pollen and diverse dust					
Management and harvesting of forests	P2 or P3 according to the type of wood	With P2 or P3 according to the type the wood For intensive work				
Sawing	P2 or P3 according to the type the wood	Work in sawmill with P2 or P3		Comfort and long duration	Ideal for hot workshops	
Sanding	P2 or P3 according to fineness of sanding and type of wood	Intensive work		Mobile device for all atmospheres	Ideal for hot workshops	
Finish coat		Solvent protection				
Treatment	Outdoor with gun P1 or P2	For vapours from insecticides	If eye irritation	Comfort and long duration		According to the toxic substance, insecticides used
Painting	Outdoor with gun P1 or P2	Temporary painting with P3 gas filter according to CAS	If eye irritation		Product recommended for painting in spraying booth	
Varnish/Surface coating	Outdoor with gun P1 or P2	Caution: a varnish that has no odour may be toxic			Product recommended for painting in spraying booth	Closed area with limited ventilated
Burning	Smoke dust outdoors	In case of toxic smoke, it is necessary to use an insulating system with associated protection against fire (see the Sperian Respiratory Protection France catalogue).				Near source of heat
Wood ashes	P3 with valve					
Wood charcoal	P2 or P3 according to the dust level		Eye risk with P3	Work with coal dust IS hazard (Intrinsically Safe)		

Farming and Horticulture

Mixed protection: predominantly chemical dust (herbicide, insecticide, preserving agent). The risk of dust is constant: Watch out for explosive dust (grain carriers).

SITUATION	 4000 Series 5000 Series P. 22	 7000 Series - P. 30  Freedom - P. 28	 Optifit P. 34	 Zephyr P. 43	 Airvisor P. 54	 MC95 P. 60
	FARMERS - HORTICULTURISTS - NURSERYMEN - WINE GROWERS					
Insecticide treatment	With manual spraying P2	With gas cartridge + P3 according to the CAS	With gas cartridge + P3 according to the the CAS	With gas cartridge + P3 according to the CAS Eye irritation	Maximum comfort recommended for greenhouses	
Herbicide treatment	With manual spraying P2	With gas cartridge + P3 according to the CAS	With gas cartridge + P3 according to the CAS	With gas cartridge + P3 according to the CAS Eye irritation	Maximum comfort recommended for greenhouses	Maximum protection recommended for greenhouses
Treatment for harvest protection	With manual spraying P2 - P3	With gas cartridge + P3 according to the CAS	With gas cartridge + P3 according to the CAS	With gas cartridge + P3 according to the CAS Eye irritation	Maximum comfort recommended for greenhouses	
Preparation of spray mixtures, horticulturists, arboriculturists)		With gas cartridge + P3 according to the CAS	With gas cartridge + P3 according to the CAS			
Diverse dust (soil – silicon dioxide)	Small, short-term work P2	With P3, difficult work	High levels of dust, with P3			
Dust (allergens, handling harvests)	Small, short-term work P2	High levels of dust, with P3	High levels of dust, with P3	With gas cartridge + P3 according to the CAS Eye irritation		
Maintenance of farming machinery	Tractors, combine harvesters, seeders, spreaders: maintenance of farm tools represents a large part of farming activity and has an impact on work safety. See car vehicle maintenance, welding, machining.					
	GRAIN CARRIERS					
Seed handling	P2 or P3, according to the product					
Seed treatment		Combined risk gas cartridge + P3	Combined risk gas cartridge + P3	Combined risk gas cartridge + P3 if eye irritation		
Seed dust		Aerosol hazard P3		IS hazard (Intrinsically Safe)		

Farming and Horticulture

Mixed protection: predominantly chemical dust (herbicide, insecticide, preserving agent). The risk of dust is constant: Watch out for explosive dust.

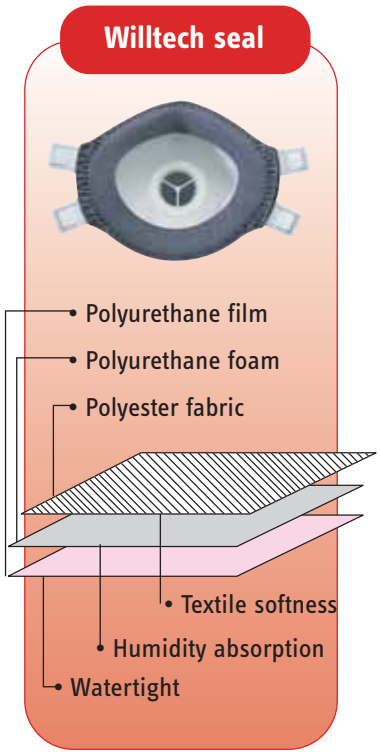
SITUATION	 4000 Series 5000 Series P. 22	 MX/PF F950 P. 31	 Optifit P. 34	 Zephyr P. 43	 Airvisor P. 54	 MC95 P. 60
BREEDERS						
Animal cleaning/maintenance	P2 or P2 OV for odour prevention					
Decontamination of installations (stables, barns)		Combined gas cartridge P3 according to the CAS	Combined gas cartridge P3 according to the CAS	Combined gas cartridge P3 according to the CAS		
Natural fertilizers (manure, liquid manure)	P2 OV for odour prevention	Combined organic vapour cartridge P3	Combined organic vapour cartridge P3			
Harvest/storage (hay, cattle feed)	P2 or P3					
Hair/feathers	P2 or P3	P3 for work in areas of heavier contamination			Breeding work	Breeding work
Bacterial and viral risks	P2 or P3 (avian flue)	P2 or P3 (avian flue)	Minimum P3 in first intention	For work in contaminated area (handling of dead animals)		

Metalworking and Welding Industries

Mixed protection: aerosols, fumes and hot gases-vapours
Fresh supplied air is the key to comfort.

SITUATION	 4000 Series 5000 Series P. 22	 MX/PF F950 P. 31	 Optifit P. 34	 Zephyr P. 43	 Airvisor P. 54	 MC95 P. 60
Dust from raw materials (iron, silicon dioxide)	P3 (sand dust)	With P3 if intensive work		If IS risk (Intrinsically Safe)		
Molten metal	P2 AV with valve From a distance or under thermal protection in ambient air		With cartridges against gases solvents + P3 (most often A2P3)	With cartridges against gases solvents + P3 (most often A2P3)		Enables the provision of fresh air and insulation
Electrodeposition		With goggles and gas cartridge + P3 according to CAS	With gas cartridge + P3 according to CAS		Intensive work or the need for supplied air	Provision of fresh air and complete safety
Degreasing		With cartridges against gas solvents + P3 (most often A2P3)	With cartridges against gas solvents + P3 (most often A2P3)	With cartridges against gas solvents + P3 (most often A2P3)		
Welding	Low level exposure P2 OV under helmet	With cartridge A2P3 if significant exposure but O^2 >17 %		Combined with OSE, but O^2 >17 % with suitable cartridge	Welding versions are available Brasage	In confined area with PANO welding screen P2 AV sous
Brazing	P2 AV under helmet	With cartridge A2P3 if significant exposure but O^2 >17 %		Combined with OSE, but O^2 >17 % with suitable cartridge	Welding versions are available	In confined area with PANO welding screen
Machining/Milling/ Sanding	P2 or P3 under facial protection	With mechanical P3 protection for constant work		Need for mobility and O^2 >17 % Choice of visor according to (projectile)	Choice of visor according to the risk of impact	For work in a closed area with limited ventilation
Sanding of mixed materials (resin and metal)		Risk of gases vapours associated with the aerosol, so gas cartridge + suitable P3	When risk of irritation or intense aerosols		Intensive work or the need for supplied air	For work in a closed area with limited ventilation
Painting	See painting guide					
Glue	In well ventilated area P2 OV	O^2 >17 % and cartridge against solvent and aerosol (most often AB2P3)	When eye irritation, with cartridge AB2P3	If intense aerosols O^2 >17 %		For work in a closed area with limited ventilation

Moulded and folding masks



The 5000 and 4000 Series (EN 149: 2001)

The Sperian range covers all the applications of disposable respiratory protection:

- From the FFP1 to the FFP3
- Against acid (AV) or organic (OV) odours
- Moulded or folded masks
- Available in 3 different sizes

Official Journal 135 of 12 June 2004: new French legislation

The filtration levels have been established for solid and liquid aerosols, after an exposure of three minutes to test aerosols.
Since 12 June 2004, a dose was added: a theoretical exposure of a load of 120mg (i.e. about 1 hour) in a solid and liquid aerosol according to the terms defined in standards EN143, EN149 and EBN13274-7. (Dossier available on request)

Common characteristics

FEATURES	KEY POINTS	YOUR ADVANTAGES
Ultra soft, hypoallergenic Willtech seal with properties of absorption	The unique textile softness minimises the effects of perspiration	Exceptional comfort that prevents irritation and increases acceptance
Willtech seal with foam and watertight film	Adapts to the face contours in a supple and effective manner	Better security of fit on the face
Exhalation valve in exclusive design	Minimum respiratory resistance. Cooler mask interior	Better acceptance over time. Greater safety guaranteed
Valve diaphragm is fully protected from impacts	Minimises any risk of deterioration in performance, or leakage	Greater safety
Preformed upper part colour coded nose bridge	Quick and effective individual adjustment, each classification has its own colour	Saves time in fitting Simple identification helps ensure safety
Masks without latex, without silicone, without PVC	Reduced risk of damage to the user's health, to his work, or to the environment	No restriction with regard to use

Dolomite-tested Respirators
All the respirators of the Sperian 5000 and 4000 Series have undergone an optional dolomite test. The results have clearly demonstrated the resistance of these respirators to dust build-up over time. The respiratory comfort offered is higher and the sensation of wearer fatigue lower.
Lower breathing resistance = increased user acceptance

Moulded and folding masks

Sperian Premium 5000 Series Respirators: moulded, disposable respiratory masks

FEATURES	KEY POINTS	YOUR ADVANTAGES
11 models	Large, diversified range	Covers all applications of respiratory protection
5 models with impregnated active carbon	Captures odours	Olfactory comfort
Available in 3 sizes	Effective and comfortable fit for all facial sizes	Added comfort encouraging the wearer to use the mask
Lightweight masks: from 10 to 28g, semi-rigid	Better acceptance over time	Minimises the wearer's fatigue
Stapled elastic bands, very flexible and highly resistant	Quick and easy used combining comfort and safety	Time saved, added safety
Stapling onto specially extended areas	No interaction with the filtering area	Elimination of any risk of leakage
3 models – top of the line	Adjustable braids	Easy and precise individual adjustment

Colour Code	Reference	Description	Classification	Exhalation Valve	Seals	Fasteners	Articles per box	NPF	APF
	10 055 80	Sperian 5110 M/L	FFP1D	No	Nasal	Elastic	20	4.5	4
	10 055 82	Sperian 5111 M/L	FFP1D	Yes	Nasal	Elastic	20	4.5	4
	10 055 91	Sperian 5140 M/L	FFP1D-OV*	No	Nasal	Elastic	20	4.5	4
	10 055 93	Sperian 5141 M/L	FFP1D-OV	Yes	Nasal	Elastic	20	4.5	4
	10 055 98	Sperian 5161 M/L	FFP1D-AV**	Yes	Nasal	Elastic	20	4.5	4
	10 055 84	Sperian 5210 M/L	FFP2D	No	Nasal	Elastic	20	12	10
	10 055 86	Sperian 5211 M/L	FFP2D	Yes	Nasal	Elastic	20	12	10
	10 055 88	Sperian 5221 M/L	FFP2D	Yes	Complete	Ajustables	5	12	10
	10 055 95	Sperian 5251 M/L	FFP2D-OV	Yes	Complete	Ajustables	5	12	10
	10 056 00	Sperian 5261 M/L	FFP2D-AV	Yes	Nasal	Elastic	20	12	10
	10 056 02	Sperian 5321 M/L	FFP3D	Yes	Complete	Ajustables	5	50	20

The 5000 range is also available in size S and X/L (See chart on pages 24 and 25)
* OV: Against nuisance level organic vapours
** AV: Against nuisance level acid gases

Sperian Premium 4000 Series Respirators: respirators folded into individual sachet

FEATURES	KEY POINTS	YOUR ADVANTAGES
Folded respirators	Take up minimal space	Easy to carry and keep clean
Watertight individual sachet	Hygiene preserved before use	Easy to use. User instructions printed on sachet
Dispenser	Easy to open and fit	Time saved
Lightweight: 7 to 14gr	Minimised wearer fatigue	Better acceptance over time
Outer filter resistant to fluids	No soiling from splash	Minimised risks of contamination
Elastic in one piece Supple and resistant	Easy face movement No staples	Easy to move about No irritation, no leakage

Colour Code	Reference	Description	Classification	Exhalation Valve	Seals	Fasteners	Articles per box	NPF	APF
	10 056 05	Sperian 4110 M/L	FFP1D	No	Nasal	Elastic	20	4.5	4
	10 056 08	Sperian 4111 M/L	FFP1D	Yes	Nasal	Elastic	10	4.5	4
	10 056 11	Sperian 4210 M/L	FFP2D	No	Nasal	Elastic	20	12	10
	10 056 14	Sperian 4211 M/L	FFP2D	Yes	Nasal	Elastic	10	12	10
	10 056 30	Sperian 4311 M/L	FFP3D	Yes	Nasal	Elastic	10	50	20

Reference Chart on Disposable Respirators

		FFP1						
		Sperian 4110	Sperian 4111	Sperian 5110	Sperian 5111	Sperian 5140	Sperian 5141	
	Reference / **Size**	10 056 05 M/L	10 056 08 M/L	10 055 25 S 10 055 80 M/L 10 051 13 XL	10 055 81 S 10 055 82 M/L 10 050 97 XL	10 055 90 S 10 055 91 M/L 10 055 89 XL	10 055 92 S 10 055 93 M/L 10 051 21 XL	
	Contaminants							
LOW TOXICITY	Dust from ferrous metals, calcium carbonate, kaolin, cement, cellulose, sulphur, cotton, flour, glass wool, charcoal, liquid aerosols, oil mist							
LOW TOXICITY	**+ organic odours (< WEL):** Toluene, xylene, solvents							
LOW TOXICITY	**+ acid odours (< WEL):** Sulphur dioxide, hydrochloric, hydrofluoric and bromhydric acid							
LOW TO AVERAGE TOXICITY	**Metal dust Non ferrous:** quartz, copper, aluminium, titanium, vanadium, manganese, molybdenum							
LOW TO AVERAGE TOXICITY	**+ organic odours (< WEL):** Arc welding, oxycutting, plasma arc cutting							
LOW TO AVERAGE TOXICITY	**+ acid odours (< WEL):** Aluminium industry							
HIGH TOXICITY	**Toxic particulates:** Antimony, nickel, uranium, rhodium, platinum, strychnine							
	Limit for use	NPF 4.5 - APF 4				Under LV – Limit Value* Maximum 10ppm		
		FFP1						

*Threshold Limit Value = Mean Exposure Value (MEV) for 8 hours of work or Threshold Limit Value (TLV) for 15 minutes of work

Reference Chart on Disposable Respirators

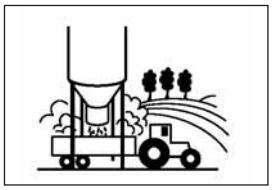
	FFP2							FFP3	
Sperian 5161	Sperian 4210	Sperian 4211	Sperian 5210	Sperian 5211	Sperian 5221	Sperian 5251	Sperian 5261	Sperian 4311	Sperian 5321
10 055 97 S 10 055 98 M/L 10 051 24 XL	10 056 11 M/L	10 056 14 M/L	10 055 83 S 10 055 84 M/L 10 050 98 XL	10 055 85 S 10 055 86 M/L 10 050 99 XL	10 055 87 S 10 055 88 M/L 10 051 20 XL	10 055 94 S 10 055 95 M/L 10 051 22 XL	10 055 99 S 10 056 00 M/L 10 051 25 XL	10 056 30 M/L	10 056 01 S 10 056 02 M/L 10 051 26 XL
									
									
									
									
									
									
									
Under LV - Limit Value*Maximum 10ppm	NPF 12 - APF 10					Under LV - Limit Value* Maximum 10ppm	Under LV - Limit Value* Maximum 10ppm	NPF 50 - APF 20	
	FFP2							FFP3	

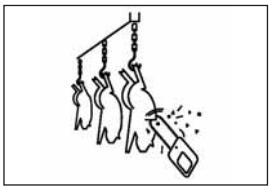
Pictograms of Professions and New Labels

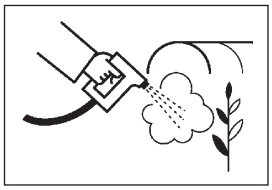
New Sperian 5000 & 4000 Premium label

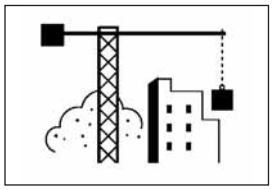
- **More clarity to guide the user in his selection**
- **Pictograms of specific professions for Sperian,** Concise and easy to understand in order to guide users in the selection of the right product suitable for a given profession.
- **Differentiation of references per type of protection provided** Thanks to the five colour codes used for the 4000 and 5000 Premium Series.
- **Safe packaging** due to a label sealed to the box.

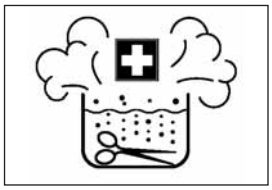
Meaning of the Pictograms

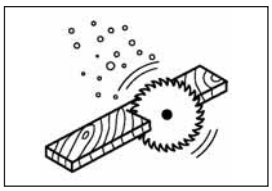

Farming

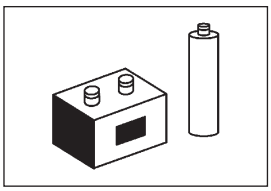

Abattoir

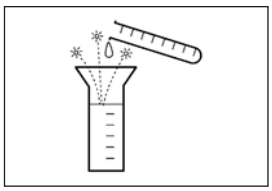

Horticultural applications

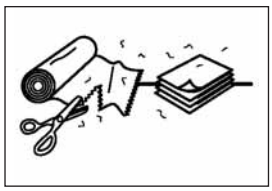

Building

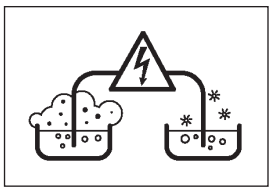

Sterilisation

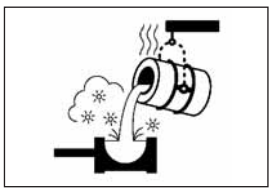

Wood industry


Battery

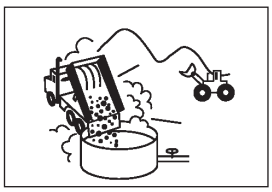

Laboratory

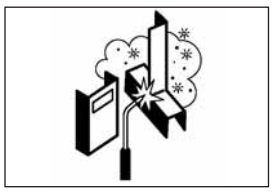

Textile & paper industry

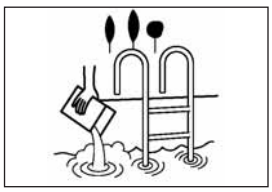

Electrolysis

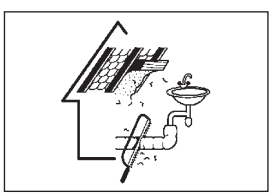

Iron & Steel industries

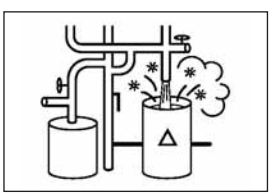
Biological risk

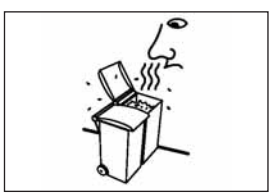

Mineral Extraction


Welding


Outdoor swimming pools (water treatment)


Fibres (glass wool, rock wool...)


Industrial chemical hazard


Unpleasant odour

How to read the information on the label

Description of the new Sperian 5000 & 4000 label

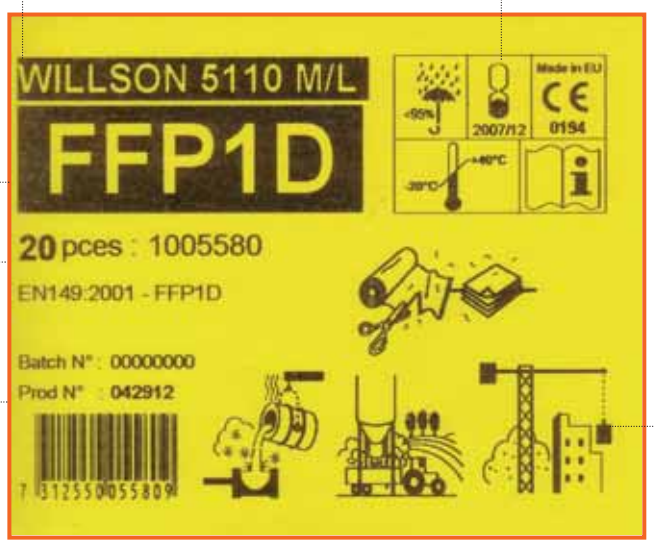
DESCRIPTION
In large inverted characters

INFORMATION CHART
Indicating all the information required by standard EN 149-2001

CLASS
In large inverted characters, identifiable by colour code.
D = dolomite tested (optional)
V = with exhalation valve
OV = organic odours
AV = acid odours

QUANTITY and PRODUCT REFERENCE
To order

BATCH NO. & PRODUCTION NO.
To track the product



PICTOGRAMS
Concise and easy to understand, to illustrate the applications of the product's main professions

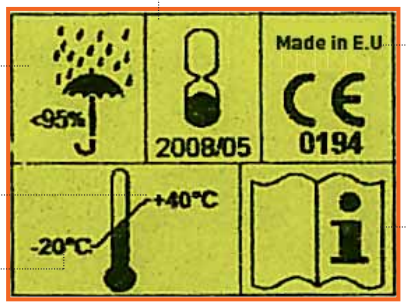
Information required by the standard

EXPIRATION DATE
Month of production + 3 years for moulded masks and + 5 years for folded masks

MAXIMUM HUMIDITY RATE
For storage -95%

MAXIMUM TEMPERATURE
For storage +40°C

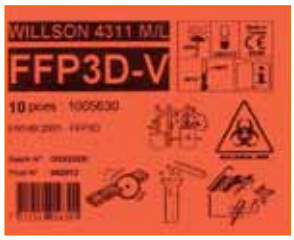
MINIMUM TEMPERATURE
For storage -20°C



CE CERTIFICATION
Identification of the approved body (0194 = Inspec) as well as the place of production

INSTRUCTIONS FOR USE
Included inside the box

FFP1



FFP3

AV

FFP2

OV

These labels are used for the Sperian 4000 and 5000 Series (except for masks 5185, 5186, 5208 and 5209)

Gas Vapours Dust

Semi-Disposable half-face masks

Freedom: Easy of use, safety and hygiene

FEATURES	KEY POINTS	YOUR ADVANTAGES
Single and limited use respirator	Hygienic Always ready to use No maintenance or spare parts	Reduction in total cost Economical Reliable product No record keeping
Dual cartridge system	Low breathing resistance Distributed weight	Optimised comfort Good field of vision
One piece sliding suspension system	Easy to put on	Safe Effective positioning
Worn low on the nose	Can be used with safety goggles	Ease of use and safety combined
Preformed Kraton skirt	Easy fit	Ethnocentric/Comfort/Tolerance

EN 405

A solution tailored to all needs of filtration: against gases, dusts and combined contaminants

For gases and vapours: NPF 50 - APF 10*
For particulates with P3: NPF 50 - APF 20
For gases with P3: NPF 50 - APF 10*

• Disposable masks with anti-gas/vapour filters

	Ref. FREEDOM	NPF	APF*
FF A1	10 015 91	50	10 or up to 1,000 ppm (whichever is the lower)
FF A2	10 015 98	50	10 or up to 5,000 ppm (whichever is the lower)

Special products for painting (not isocyanates)	Ref. FREEDOM
FF A1 + 10 pairs of protection prefilters	10 016 07
FF A2 + 10 pairs of protection prefilters	10 015 99

FREEDOM

Optional

- Possible to add prefilters P1 or P2 (S) or prefilters for protection against splash when painting
- Do not forget retainers.

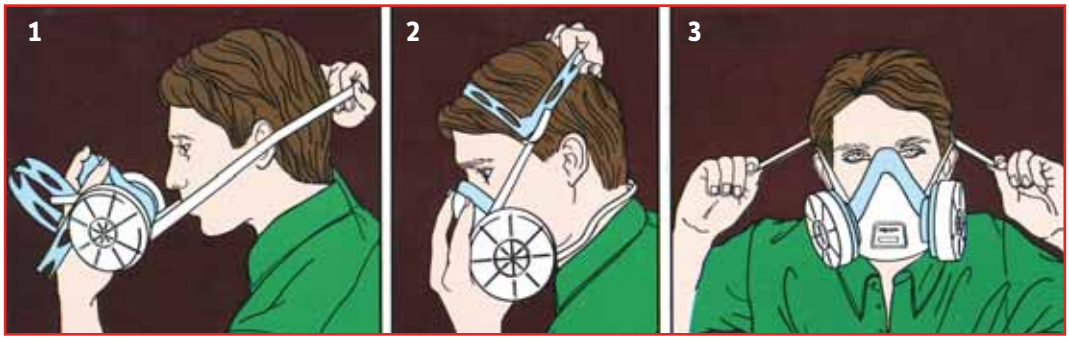
• Disposable masks with combined filters

All the abovementioned anti-gas filters can be combined with dust protection.

	Ref. FREEDOM
FF A1P1	10 015 92
FF A2P2	10 016 01
FF A2P3	10 016 02
FF ABEK1P3	10 016 10

Disposable masks with dust filters and dust prefilters		Ref. FREEDOM	NPF	APF
Prefilters P1	Retainers required	10 028 00	4,5	4
Prefilters P2	Retainers required	10 028 01	12	10
P3		10 015 97	50	20
Painting prefilter, pack of 200 - Retainers required		10 006 05	N/A	N/A
Retainer for prefilters P1 and P2		10 016 06		

Fitting in three easy stages



Breathe in complete safety

Reusable half-face masks with single filter

Half-face Sperian mask: for single filter operation

FEATURES	KEY POINTS	YOUR ADVANTAGES
Wide field of vision	Excellent lateral and downward visibility	Safe
Silicone exhalation valve	Silicone reactivity	Protection
Nasal form of skirt	Wearing personal spectacles or safety goggles facilitated	Safety
Progressive sealing flange	Skirt with tight seal	Protection Facial compatibility
Quick adjusting buckles	Easy to take off	Safety
RD40 connector	It is possible to use a standardised high capacity filter	Standardisation
Silicone skirt	Hypoallergenic Resistance to chemical products	Comfortable

For gases and vapours: NPF 50 - APF 10*
For particulates with P3: NPF 50 - APF 20
For gases with P3: NPF 50 - APF 10*
* For Class 1 gas filters: 10 or up to 1,000 ppm (whichever is the lower)
* For Class 2 gas filters: 10 or up to 5,000 ppm (whichever is the lower)

> Half-face gas mask

Reference	Description
17 250 35	SPERIAN PLUS anti-gas without filter
17 250 59	SPERIAN PLUS silicone, yellow, without filter
17 265 92	SPERIAN PLUS with threaded base RD40 1/7" (filters pages 36-37)
17 265 12	SPERIAN PLUS silicone, threaded base RD40 1/7" (filters pages 36-37)

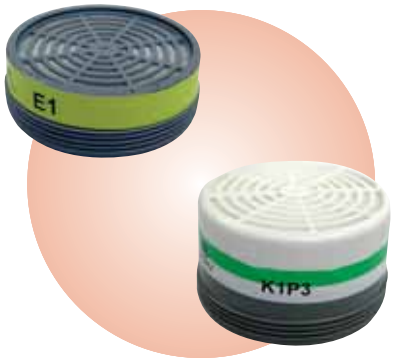
> Half-face dust mask

Reference	Description
17 250 36	SPERIAN PLUS P2/P3 (comes without a filter)
17 273 74	Filter cartridge P2 (Pack of 4)
17 273 77	Filter cartridge P3 (Pack of 4)

Filters for half-face Sperian mask with single filter

See p.38

FEATURES	KEY POINTS	YOUR ADVANTAGES
Lightweight, resistant plastic case/housing	Sturdy	Shock resistance Easy to use
Diameter 90mm	Improved angle of vision	Compact
Threaded receiver Filter screws directly into face-piece moulded	Reliable fastening system and excellent seal	Optimised safety
Activated and impregnated based carbon	Excellent absorption capacity	Long-lasting product coconut Safety



Reference	Code	Description	Reference	Code	Description	Reference	Code	Description
17 273 10		A1	17 273 30		B1	17 273 80		K1
17 274 10		A1 + P2	17 274 30		B1 + P2	17 274 80		K1 + P2
17 274 13		A1 + P3	17 274 14		B1 + P3	17 274 16		K1 + P3
17 273 40		A1B1	17 271 70		Box of 100 prefilters	17 250 23		P2
17 274 40		A1B1 + P2	17 273 60		E1	17 250 24		P3
17 274 41		A1B1 + P2 disc	17 274 60		E1 + P2			
17 274 17		A1B1 + P3	17 274 15		E1 + P3			

Gas Vapours Dust

Half-face Reusable Respirators with twin filters

7000 Series: Half-face respirator with twin filter

FEATURES	KEY POINTS	YOUR ADVANTAGES
Available in 3 sizes	Fits all wearers	Multipurpose range for all wearer sizes
2 tightening points at the neck cover	Distributed fastening points	Pressure distribution and comfort
Elastic tightening	In one piece	Easy to put in place
2 large air inlets diameters	Decreased pressure loss	Easier breathing
Filtering cartridges towards the back of the respirator	Better downward visibility	Safety of movement
Centre of gravity close to the face	Sensation of lightness	Promotes longer wearing time
Shape of nose piece	Optimized wearing of goggles/spectacles	Allows wearing of eye protective devices
Port in the lower interior part of the respirator	Chin piece/canal for perspiration	Comfortable for intensive work or work in a hot, damp environment
Rigid monobloc to hold the cartridges in secure position	Easy cartridge positioning	Safety

For gases and vapours: NPF 50 - APF 10*
For particulates with P3: NPF 50 - APF 20
For gases with P3: NPF 50 - APF 10*
* For Class 1 gas filters: 10 or up to 1,000 ppm (whichever is the lower)
* For Class 2 gas filters: 10 or up to 5,000 ppm (whichever is the lower)

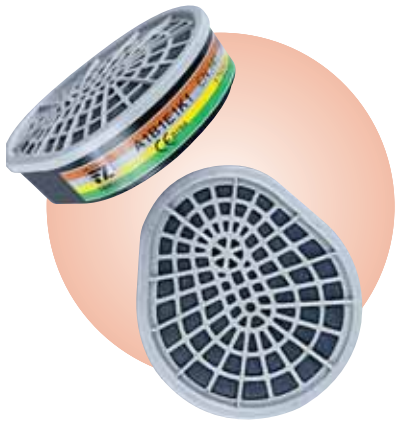
> **Available in 3 sizes**

Reference	Description	Size	Weight	Material
17 655 01	Half-face mask 7000 Sperian	S	220 g	Elastomer
17 655 00	Half-face mask 7000 Sperian	M	220 g	Elastomer
17 655 02	Half-face mask 7000 Sperian	L	220 g	Elastomer

See p.38

Filters for the 7000 Series half-face masks

FEATURES	KEY POINTS	YOUR ADVANTAGES
Filter placed in the back, oval or round shape	Does not hinder the field of vision	Good operation
Coconut based carbon	Optimal exchange surface	Optimal period of use
Adaptable electrostatic P2 filter	Quick installation	The P2 can be added without having to change the gas filter
Bi-filter structure	Low resistance, Lower than that required by standard EN 141	Easy ventilation Low breathing resistance
Service life	Easy storage	Durable product quality and efficiency
Packaging Plastic shrink-wrap, in pairs	Protection ensured during delivery and storage	Safe Easy storage



Reference	Code	Description	Reference	Code	Description	Reference	Code	Description
17 656 14		A1B1	17 656 02		A2 P2	17 656 21		E1 P2
17 656 23		A1B1E1	17 656 03		A2 P3	17 656 22		E1 P3
17 656 04		A1B1E1K1	17 656 17		B1	17 656 10		K1
17 656 06		A1B1E1K1 P3	17 656 07		B1E1	17 656 11		K1 P2
17 656 25		A1B1E1 P2	17 656 08		B1E1 P2	17 656 12		K1 P3
17 656 24		A1B1E1 P3	17 656 09		B1E1 P3	17 656 65		P2 sachet of 20
17 656 15		A1B1 P2	17 656 18		B1 P2	17 656 13		P2 with support
17 656 16		A1B1 P3	17 656 19		B1 P3	17 656 00		P3
17 656 01		A2	17 656 20		E1			

The 7000 Series half-face mask filters are sold by the pair.

Half-face Reusable Mask with Twin Filters

VALUAIR: multipurpose, comfortable and economical

FEATURES	KEY POINTS	YOUR ADVANTAGES
Easy assembly	Easy and quick to assemble and dismount	Easy and quick care
Thermoplastic elastomer facepiece	Durable	Economical Long service life
Rolled and flexible edges of the sealing flanges	Optimised seal	High level of breathing protection
Perspiration port	Optimised stability due to reduced slippage	Comfortable and effective seal
Four-strap stable monobloc harness	Facial pressure adjustment	Optimised wearer tolerance
Click-fit cartridge fastening system	Secure click-fit installation	Ultimate safety

Reference	Description	Size	Weight alone	Material
10 015 73	Sperian Valuair Plus	M	109 g	Kraton
10 015 74	Sperian Valuair Plus	L	113 g	Kraton

PREMIER: silicone material for exceptional comfort

FEATURES	KEY POINTS	YOUR ADVANTAGES
Easy assembly	Quick to assemble and dismount	Easy and quick care
Silicone facepiece	Soft and resistant silicone	Wearer comfort, Long service life, Economical, Easy decontamination
Rolled, flexible edges of the respirator facepiece (sealing flanges)	Optimised seal	High-level respirator protection
Perspiration port	Optimised stability due to reduced slippage	Comfortable and tight seal
Four-point floating yoke with neck strap	Facial pressure adjustment top: nose pressure bottom: cervical pressure	Optimised wearing wide-comfort
Click-fit cartridge fastening system	Secure click-fit installation	Ultimate safety

Reference	Description	Size	Weight alone	Material
10 015 75	Sperian Premier	M	140 g	Silicone
10 015 76	Sperian Premier	L	145 g	Silicone

MX/PF F950: Triple seal for superior fit

FEATURES	KEY POINTS	YOUR ADVANTAGES
Easy assembly	Easy to assemble and dismount	Easy and quick care
Silicone facepiece	Soft Resistant silicone	Comfortable Long service life - Economical Easy decontamination
Triple flange seal	Optimised seal	Protection factor (Fit Test)
Wide, horizontal skin contact with pleated design	Adaptable to most face sizes/shapes Limited movement on the face during speech	Good fit across a wide variety of facial geometries Safe for communication
Four-point yoke	Distributed pressure points for the face	Safe - Comfortable for long periods
Wide flange seal	Pressure distribution	Comfortable
Mouth-level exhalation valve position	Short exhalation channel	Comfortable Good communication

A plus in comfort:
Large triple seal

Reference	Description	Size	Weight alone	Material
10 015 58	Sperian MX/PF F950	M	220 g	Silicone

Registered patent in Europe and the US

For gases and vapours: NPF 50 - APF 10*
For particulates with P3: NPF 50 - APF 20
For gases with P3: NPF 50 - APF 10*
* For Class 1 gas filters: 10 or up to 1,000 ppm (whichever is the lower)
* For Class 2 gas filters: 10 or up to 5,000 ppm (whichever is the lower)

See p.33

See p.38

Full-face Mask with Twin Filters

Optifit Twin: optimised leaktight seal, exceptional optical quality and comfort

FEATURES	KEY POINTS	YOUR ADVANTAGES
U-shaped skirt	Enables automatic positioning	Comfort Easy to use
Silicone skirt	High quality	Comfortable and resistant
Full lens	Perfect undistorted vision	Optimal lateral and downward vision
Wide field of vision	83 % binocular field of vision	Safety in the workplace
Speech diaphragm	Built-in in plastic	Easy communication
Exhalation valve	Facing the mouth	No recycling of exhaled gases
3 sizes	Fits all wearers	Multipurpose respirator within a workforce
Click-fit system	Secure fastening by 1/4-turn audible click	Safety: the wearer checks the installation by the click of its security system
Few components	Easy to assemble and dismount	Easy care and maintenance

NEW

EN 136

Average weight: 595g

> Available in 3 sizes

Reference	Description	Size	Width		Height
17 152 31	Optifit Twin	S	124,5	x	177,7 mm
17 152 41	Optifit Twin	M	152,6	x	190,7 mm
17 152 51	Optifit Twin	L	161,0	x	204,1 mm

For gases and vapours: NPF 2,000 - APF 20*
For particulates with P3: NPF 2,000 - APF 40
For gases with P3: NPF 2,000 - APF 20*
* For Class 1 gas filters: 10 or up to 1,000 ppm (whichever is the lower)
* For Class 2 gas filters: 10 or up to 5,000 ppm (whichever is the lower)

Accessories

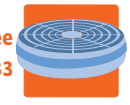
Reference	Description	Packaging
17 101 74	Black carrying case	Unit
17 720 40	Prescription frame (without lenses)	Unit
30 223 00-STD	Prescription frame (without lenses)	Unit

Click-fit system

For daily care

Reference	Description	Packaging
17 790 59	ACTISEPT 25, 1 litre container	Unit
17 790 61	Visor cleaning product - ALTUSIL	Unit
17 266 02	Mask cleaner (for half- and full-face mask)	100 units
17 660 62	Mask cleaner (for half- and full-face mask)	1000 units
17 790 65	EPI-US, 5 litres can	

See p.33



See p.41

Click-fit System Filters

Sperian filters for half-face masks: Valuair - Premier - MX/PF F950 and Optifit Twin full-face mask

FEATURES	KEY POINTS	YOUR ADVANTAGES
Filter placed backwards in a round or oval shape	Does not hinder the field of vision	Facilitates the user's work
Click-fit system	Secure fastening by 1/4-turn audible click	Safety: the wearer checks the installation by the click of its security system
Coconut based carbon	Optimised exchange surface	Optimised service life
Mechanical filtering membrane	As effective as the true P3 according to EN 143	Safety and lasting protection
Twin filter structure	Low resistance, lower than that requested by standard EN 141	Easy ventilation
Service life	Easy storage. 5-year expiration date after date of production	Product of high quality and effective over time
Packaging: shrink-wrapped in pairs	Protection during delivery and storage	Safety Easy storage

Click-fit system

Reference	Code	Description	Reference	Code	Description	Reference	Description
10 016 19		A1	10 016 09		AB1 P3	10 028 00	Prefilters P1
10 016 20		A1P3	10 015 79		AE1	10 028 01	Prefilters P2
10 015 77		A2	10 015 85		AE1 P3	10 006 05	Painting prefilters
10 015 83		A2P3	10 015 80		K2	10 035 29	P3 (LP) filter
10 015 78		B1	10 015 86		K2P3	10 015 90	Retainer for prefilters P1/P2
10 015 84		B1P3	10 015 81		ABEK1		
10 016 08		AB1	10 015 87		ABEK1P3		

Gas Vapours Dust

Full-face mask with single RD40 filter

OPTIFIT: optimised leaktight seal, exceptional optical quality and comfort

FEATURES	KEY POINTS	YOUR ADVANTAGES
U-shaped skirt	Enables automatic positioning	Comfort Easy to use
Silicone skirt	High quality	Comfortable and resistant
Full lens	Perfect undistorted vision	Optimal lateral and downward vision
Wide field of vision	83 % binocular field of vision	Broad vision
Speech diaphragm	Built-in in plastic	Easy communication
Exhalation valve	Facing the mouth	No recycling of exhaled gases
3 sizes	Fits all wearers	Multipurpose respirator within a workforce
RD40 connection	Standard	Free choice of filter
Few components	Easy to assemble and dismount	Easy care and maintenance

EN 136

Average weight: 580g

> Available in 3 sizes

Reference	Description	Size	Width		Height
17 150 01	Optifit	S	124,5	x	177,7 mm
17 150 11	Optifit	M	152,6	x	190,7 mm
17 150 21	Optifit	L	161,0	x	204,1 mm

Panoramasque: The “Gold Standard” for high performance and comfort

FEATURES	KEY POINTS	YOUR ADVANTAGES
EPDM face-seal	Sturdy and resistant to ageing	Long-lasting product
Silicone face seal	Lightweight, soft, sturdy and resistant to ageing	Long service life Comfort, allergy-free
Watertight lip on face-seal	Large and supple	Watertight - Comfortable
Harness	Wide 5-branch	Stable fit system
Wide PMMA lens	Undistorted vision Chemical resistance	Safety at the workplace
Large range of gas particulate filters	Standardised non-captive system	Standardisation
Neck strap in fire-resistant cotton	Neck support provided when at rest	Mask always ready to be used
With corrective lenses	Possible	Safety
Speech diaphragm	Metal quality	Optimised communication
Lateral exhalation valve	Low resistance	Easy exhalation

EN 136

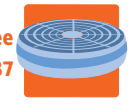
Average weight: 530g

Reference	Description
17 103 94	Panoramasque in black EPDM with PMMA (methacrylate) lens
17 110 22	Panoramasque in black EPDM with polycarbonate lens
17 109 80	Panoramasque in yellow silicone with PMMA (methacrylate) lens
17 109 87	Panoramasque in yellow silicone with PMMA (methacrylate) lens + speech diaphragm*
17 103 95	Panoramasque in black EPDM with PMMA (methacrylate) lens + speech diaphragm*
17 110 00	Panoramasque in black EPDM, lens treated against any projection of chlorine or solvents
17 110 01	Panoramasque in black EPDM with laminated glass lens

For gases and vapours: NPF 2,000 - APF 20*
For particulates with P3: NPF 2,000 - APF 40
For gases with P3: NPF 2,000 - APF 20*
* For Class 2 gas filters: 10 or up to 5,000 ppm (whichever is the lower)

After carrying out all maintenance work on a mask, check its performance using the Sperian control bench or a specific test head.

See p.36-37



See p.39-40

Full-face mask with single RD40 filter

Cosmo: for heavy industrial environments and applications

CHARACTERISTICS	KEY FEATURES	YOUR ADVANTAGES
EPDM face-seal	Sturdy and resistant to ageing	Long-lasting product
Silicone face seal	Lightweight, soft, sturdy and resistant to ageing	Long service life Comfort, allergy-free
U-shaped sealing flange	Comfortable Self-positioning	Tight seal
Harness	5 broad strap system	Respirator stability on the face
Broad lens	Undistorted vision	Safe when working
Extensive range of gas-particulate filters	Non-captive standardised system	Buyer free to choose consumables
Fireproof cotton neck strap	Respirator support, rests the neck	Respirator always ready for use
Prescription spectacles	Possible	Safe
Speech diaphragm	Metal quality	Optimal communication
Double frontal respiratory valves	Low resistance	Easy to exhale Optimised communication
Optional test to measure the protection factor	Measurement of the assigned protection factor (on the wearer)	Regular verification of respirator quality for a specific wearer

EN 136

Poids indicatif: 650 g

Reference	Description*
17 105 21	Cosmo black EPDM with polycarbonate lens
17 105 01	Cosmo yellow silicone with polycarbonate lens
17 105 02	Cosmo yellow silicone with lens treated against applications with chlorine or solvents

Reference	Description*
17 105 05	Cosmo yellow silicone with polycarbonate lens and nomex mesh
17 105 22	Cosmo black EPDM with lens treated against applications with chlorine or solvents
17 105 25	Cosmo black EPDM with polycarbonate lens and Nomex mesh

Accessories

Reference	Description	Packaging
17 100 88	Pack of 20 disposable visor covers for Panoramasque	Unit
17 720 10	Waterproof case (zipped)	Unit
17 720 40	Blue carrying case	Unit
17 725 24	X-pack case (New)	Unit
30 223 00-STD	Prescription lens insert - supplied without lenses	Unit

For daily care

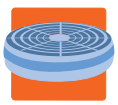
Reference	Description	
17 790 65	Cleaning product EPI U-S (5 litres)	Unit
17 790 61	Dispenser of ALTUSIL	Unit
17 266 02	Disinfection sachet (full and half-face mask)	Pack of 100
17 660 62	Disinfection sachet (full and half-face mask)	Pack of 1000

For gases and vapours: NPF 2,000 - APF 20*
For particulates with P3: NPF 2,000 - APF 40
For gases with P3: NPF 2,000 - APF 20*
* For Class 2 gas filters: 10 or up to 5,000 ppm (whichever is the lower)

Mask maintenance schedule

Operation	Mask in operation	Stored mask
Cleaning, disinfecting	After each use	NA
Leaktightness test on bench	Every 12 months	Every 2 years
Valve change	Every 2 years	Every 6 years
Flange change	Every 2 years	Every 6 years

See p.36-37



See p.40-41

** Contact us for your specific needs.*

RD40 filters with aluminium canister

Aluminium filters - Sperian: for Optifit, Panoramasque, Cosmo and the half-face mask Sperian Plus RD40

FEATURES	KEY POINTS	YOUR ADVANTAGES
Aluminium canister	Stabilisation of carbon	Less impact from external shocks Visual tell-tale of impacts
Coconut based carbon	Optimised exchange surface	Optimised period of use
Filter P3	Mechanical filtration	Constant and optimised filtration
Filter structure	Low resistance, Lower than that required by standard EN 141	Less fatigue for the user
Service life	Easy storage Two sealing plugs	Product offering quality and efficiency over time
Watertight test	Easy for all hand sizes	Safety for the user
Packaging	Protection during delivery and storage	Safety Easy and secure storage

Reference	Code	Description	Reference	Code	Description
• Gases/Vapours and combined					
17 850 10		250 A2	17 810 10		450 A2
17 830 10		250 A2 P3	17 840 10		450 A2 P3
17 850 40		250 A2B2	17 810 40		450 A2B2
17 830 40		250 A2B2 P3	17 840 40		450 A2B2 P3
17 850 30		250 B2	17 810 00		450 A2B2E2K2
17 830 30		250 B2 P3	17 840 00		450 A2B2E2K2 P3
17 850 20		250 B2E2	17 850 25		450 AX
17 830 20		250 B2E2 P3	17 850 18		450 AX P3
17 850 60		250 E2	17 850 12		450 AX B2
17 830 60		250 E2 P3	17 850 14		450 AXB2 P3
17 850 80		250 K2	17 810 30		450 B2
17 830 80		250 K2 P3	17 840 30		450 B2 P3
17 850 00		300 A2B2E2K1	17 810 20		450 B2E2
17 830 00		300 A2B2E2K1 P3	17 840 20		450 B2E2 P3
17 850 19		300 A2B2E2K1 Hg P3	17 810 50		450 B2K2
17 867 10		300 A2B2E2K1 Hg NO CO P3	17 840 50		450 B2K2 P3
17 867 30		300 A2B2E2K1 NO P3	17 810 60		450 E2
17 850 11		300 AX	17 840 60		450 E2 P3
17 850 16		300 AXP3	17 841 40		450 Hg (Mercury) P3
17 850 50		300 B2K1	17 810 80		450 K2
17 830 50		300 B2K1 P3	17 840 80		450 K2 P3

RD40 filters with plastic canister

Plastic filters - Sperian: for Optifit, Panoramasque, Cosmo, and the half-face mask Sperian Plus RD40

FEATURES	KEY POINTS	YOUR ADVANTAGES
Coconut based carbon	High contact surface	Safe
2 safety plugs	Lasting protection from contact with ambient air	Safe storage between periods of use
Inhalation port	Small size	Easy tightness test
Comes in individual cardboard box	Protection against shocks Stabilisation	Safe Easy storage
P3 FILTER	MECHANICAL FILTRATION	Constant OPTIMAL FILTRATION
XL	Large size equivalent to 400 CC	Longer protection
Plastic casing	Absence of metal	Appreciable use in specific zones (high protection offered without metal)
RD 40 connection	Standard connection	Multipurpose and can be introduced for use with existing respirators
Plastic	Compactable during waste disposal process	Acceptable for use in the Nuclear Industry
Price	Inexpensive	Appreciable savings

Reference	Code	Description	Reference	Code	Description
17 880 00		A2	17 881 61		AX XL
17 881 00		A2 XL	17 880 10		B2
17 880 75		A2B2	17 881 10		B2 XL
17 881 75		A2B2 XL	17 880 15		B2P3
17 881 40		A2B2E1K1	17 881 15		B2P3 XL
17 881 45		A2B2E1K1 P3	17 880 20		K2
17 881 50		A2B2E2K2 XL	17 881 20		K2 XL
17 881 55		A2B2E2K2P3 XL	17 880 25		K2P3
17 880 70		A2B2P3	17 881 25		K2P3 XL
17 881 70		A2B2P3 XL	17 881 90		IPR
17 880 05		A2P3	• Dust		
17 881 05		A2P3 XL	17 860 00		P3 - TM3/TM2P/TH2P Sperian
17 881 66		AXP3 XL	17 861 10		P3 double threading

Spare parts and accessories

Diagram for spare parts Sperian half-face masks (p.31)

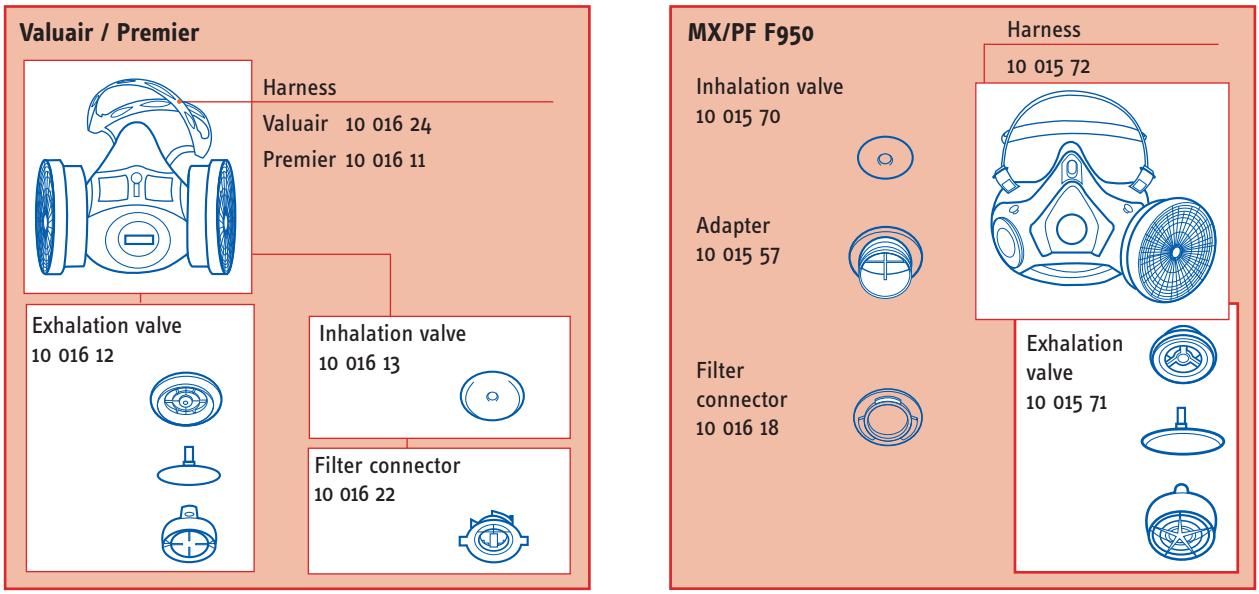
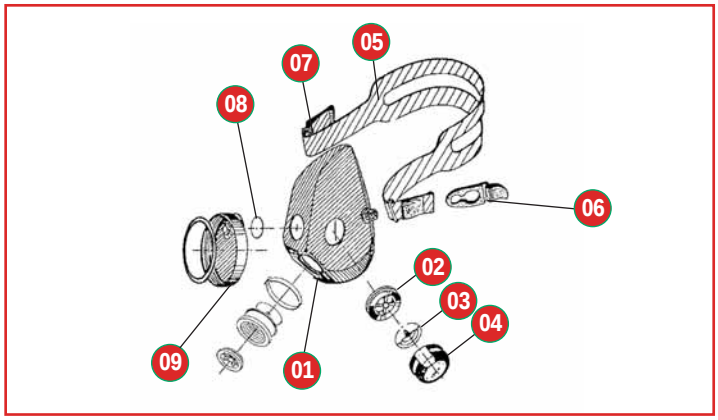


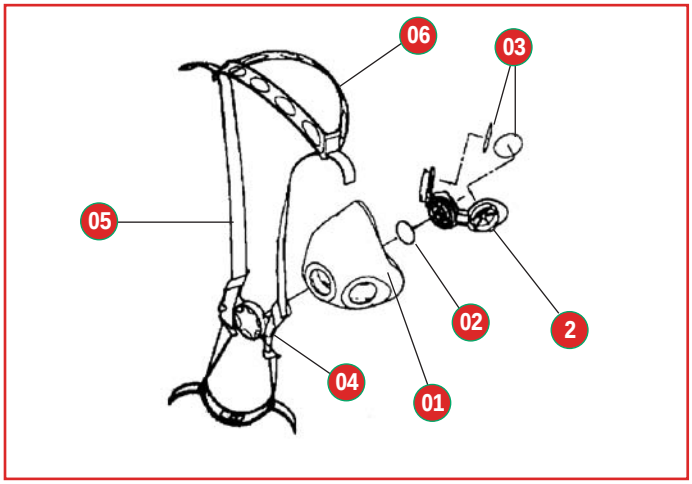
Diagram for spare parts for half-face masks single filter Sperian (p.29)

Marking	Reference	Description
01	17 250 26	Face-seal for half-mask, 3 holes, Sperian
02	17 265 20	Seat for exhalation valve box
03	17 265 30	Exhalation valve for half-face mask
04	17 265 42	Cover CE0194 for exhalation valve box
05	17 250 29	Flange for half-face mask
06	17 250 27	Quick buckle for half-face mask
07	17 050 18	Rectangular roll 24.5 x 10.5
08	17 270 30	Inhalation valve D33-D3 x 0.4
09	17 270 12	Sperian filter holder with fitting



Spare Parts Diagram for the 7000 Series (p.30)

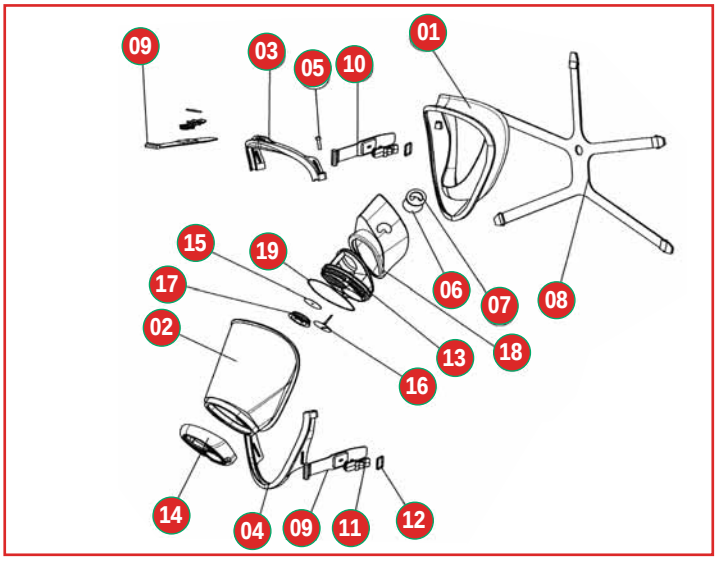
Marking	Reference	Description
01	17 655 50	Face-seal for the 7000 Series half-face mask - Size S
01	17 655 51	Face-seal for the 7000 Series half-face mask - Size M
01	17 655 52	Face-seal for the 7000 Series half-face mask - Size L
02	17 655 59	Inner support equipped with inhalation valves
03	17 655 56	Inhalation valve for half-face mask 7000
04	17 655 60	Strap support and cover marked “Sperian”
05	17 655 61	Elastic strap Length 1.2 m - Width 12mm
06	17 655 62	Headband



Spare parts and accessories

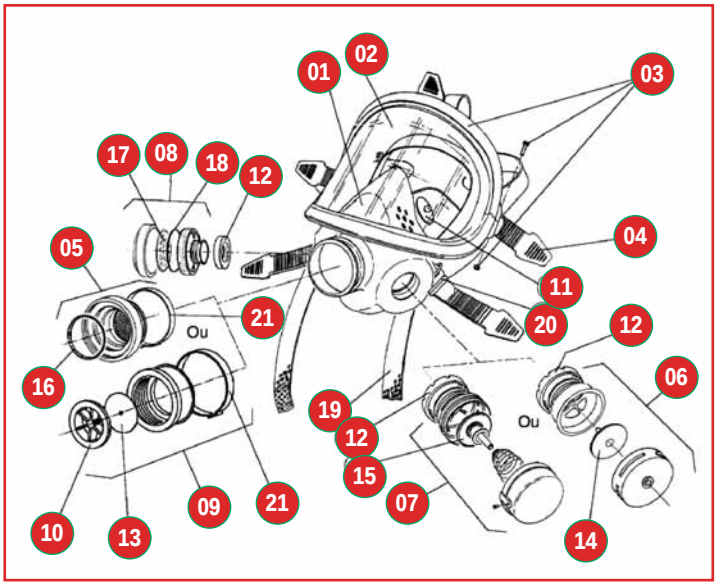
Spare Parts Diagram for Optifit full-face mask (p.34)

Marking	Reference	Description
01	17 150 50	Face-seal - Size S
01	17 150 65	Face-seal - Size M
01	17 150 66	Face-seal - Size L
02	17 107 13	Visor
03	17 150 52	Upper half-collar, black
04	17 150 53	Lower half-collar, black
05	17 150 67	Screw for ocular collar
06	17 150 70	Valve for inner mask
07	17 150 69	Valve seat for inner mask
08	17 150 56	5-branch head-harness
09	17 150 57	Lower buckle support (x3)
10	17 150 58	Upper buckle support (x2)
11	17 150 59	Quick buckle
12	17 150 60	Open rectangle
13	17 150 61	Base connection RD40 x 1/7"
14	17 150 63	Base grid marked "SPERIAN-CE0194-EN136:1998-CL2"
15	17 021 50	Base inhalation valve
16	17 150 62	Base exhalation valve
17	17 052 07	Base jumper joint
18	17 150 54	Inner mask
19	17 150 51	Basic O-ring joint



Spare Parts Diagram for Panoramasque full-face mask (p.34)

Marking	Reference	Description
01	17 101 15	Inner mask in EPDM, black
01	17 101 17	Inner mask in silicone, yellow
02	17 100 83	PMMA lens (marked CL2)
02	17 100 81	PMMA, lens treated against any projection of chlorine or solvents (marked C)
02	17 100 86	PC lens (marked CL2)
02	17 102 56	Scratchproof PC lens (marked CL3)
03	17 100 96	Ocular collar, black, with screws and nuts
03	17 100 97	Ocular collar, red, with screws and nuts
03	17 104 05	Ocular collar, yellow, with screws and nuts
04	17 100 19	Harness with cast moulded rectangle
04	17 100 21	Harness without cast moulded rectangle
05	17 104 02	Click-on connection, complete For valve SA 5000
06	17 013 72	Box for exhalation valve, black, not set
07	17 104 03 f	Box for exhalation valve, yellow, set or SA 5000
08	17 013 66	Speech box
09	17 020 00	Complete RD40 x 1/7" connection
10	17 052 07	Inhalation valve holder fitting
11	17 101 20	Inhalation valve for inner mask < 07/2002
11	17 150 71	Added seat and inhalation valve for inner mask > 07/2002
12	17 014 17	Nut for speech box and box for valve not set
13	17 021 50	Inhalation valve
14	17 010 40	Silicone inhalation valve
15	17 013 17	Skirt for set valve
15	17 013 17	O-ring joint for click-on connection
17	17 052 05	Speech capsule ø 54
18	17 052 11	O-ring joint for speech capsule
19	17 103 17	Neck strap with open d-rings
20	17 100 50	Roll rectangle
21	17 022 48	Tightening collar for mask connection



Spare parts and accessories

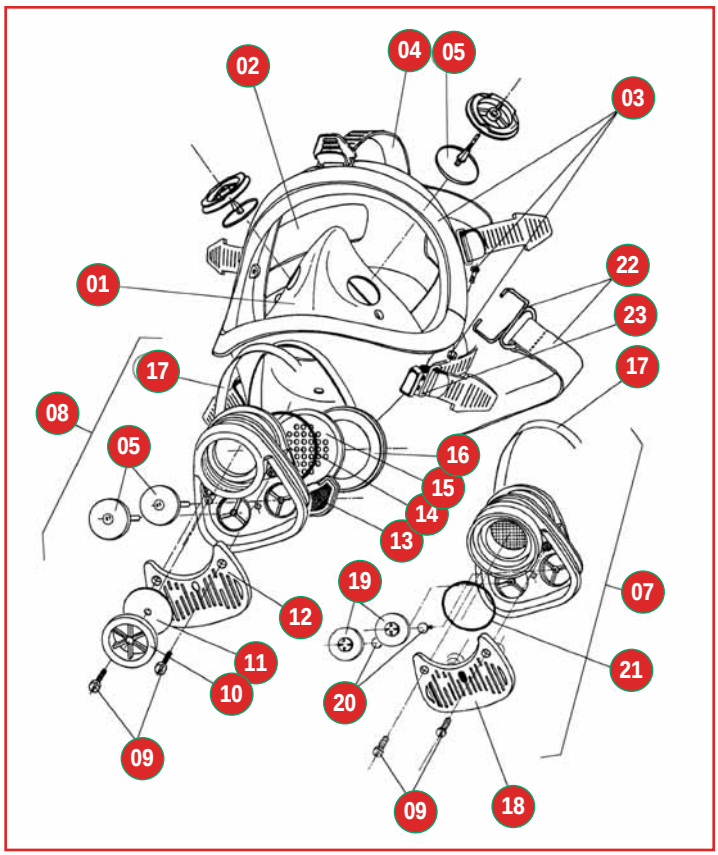
Options and accessories for complete Panoramasque mask (p.34)

Reference	Description
17 410 55	PANO speech maintenance kit for positive pressure < 07/2002: 1 joint 1705211 + 1 joint 1710319 + 2 valves 1710120 + 1 skirt 1701317 + 1 spring 1701318
17 013 81	Wrench for nut for valve box or speech box
17 013 84	Wrench for speech box cover
30 223 00-STD	Frame for mask goggles
17 102 97	Set of flanges for helmets F1 et F1A + 2 screws CLS M3-30
17 103 23	Full support mesh
17 410 59	PANO speech maintenance kit for positive pressure > 07/2002: 1 joint 1705211 + 1 joint 1710319 + 2 seats and valves 1715071 + 1 skirt 1701317 + 1 spring 170131
17 725 00	Plastic rigid case for mask storage
17 790 61	Dispenser of ALTUSIL (cleaning product for lenses)
17 790 65	Cleaning product EPI U-S, 5-litre can
17 795 02	Pliers for mask connection collar

Spare Parts Diagram for full-face Cosmo mask (p.35)

Marking	Reference	Description
01	17 056 11	Inner mask in EPDM, black
01	17 056 10	Inner mask in silicone, black
02	17 052 60	PMMA lens (marked CL2)
02	17 052 63	PMMA, lens treated against any projection of chlorine or solvents (marked C)
02	17 052 61	PC lens (marked CL2)
02	17 056 31	Scratchproof PC lens (marked CL3)
03	17 053 60	Ocular collar, black, with screws and nuts
03	17 053 61	Ocular collar, red, with screws and nuts
03	17 053 66	Ocular collar, yellow, with screws and nuts
04	17 100 19	Harness with cast moulded rectangle
04	17 100 21	Harness without cast moulded rectangle
05	17 052 14	Exhalation valve for mask connection Exhalation valve for inner mask
07	17 053 90	Complete click-on connection marked “Q”, set
07	17 056 65	Complete connection M45 x 3 marked “M”, set
08	17 053 81	Complete connection RD40 x 1/7” marked “R”
09	17 725 80	Screw M3-10 for mask connection grid
10	17 052 07	Joint for inhalation valve holder
11	17 021 50	Inhalation valve
12	17 052 24	Sperian black grid
13	17 052 19	Screen for mask connection
14	17 052 11	O-ring joint for speech capsule
15	17 052 05	Speech capsule ø 54
16	17 052 04	Screw M56 x 2 for speech capsule
17	17 052 35	Tightening collar for mask connection
18	17 052 27	Red “Sperian” grid with springs
18	17 056 77	Yellow “Sperian” grid with springs
19	17 052 08	Skirt for set valve
20	17 052 06	Axis for skirt of set valve
21	17 103 19	O-ring joint for click-on connection

Marking	Reference	Description
22	17 101 44	Neck strap with elastic buckle
23	17 100 50	Roll rectangle
24	17 150 71	Added seat and inhalation valve for innermask



Spare parts and accessories

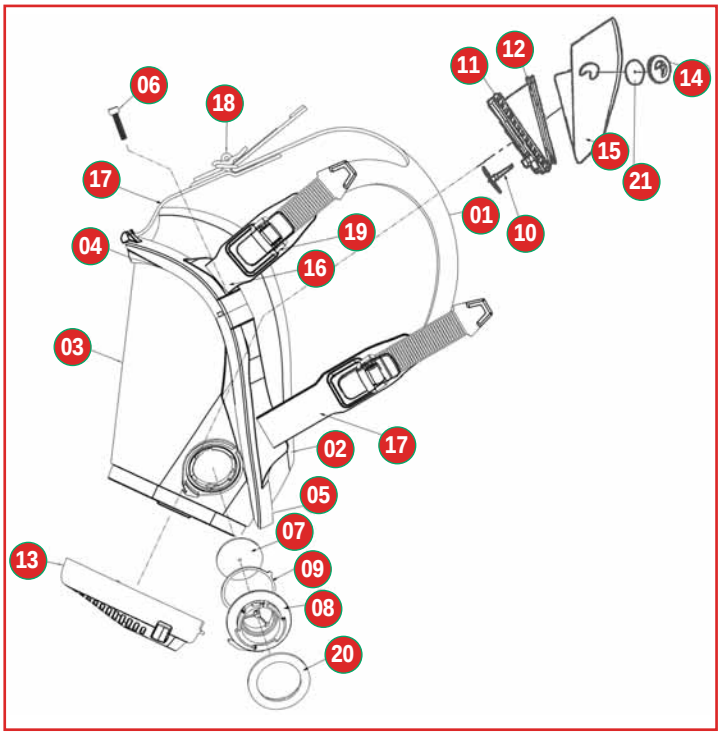
Options and accessories for the complete Cosmo mask (p.35)

Reference	Description
17 052 77	Wrench for screws M56 x 2 for support of the speech capsule
17 052 78	Adjustment wrench for the set valves
17 103 23	Complete support mesh
30 223 00-STD	Frame for goggles for the mask
17 053 01	Set of joint flanges for helmets F1 et F1A + 2 screws CL S, M3-30
17 410 54	COSMO maintenance kit for positive pressure: 1 joint 17 052 11 + 1 joint 17 103 19 + 2 valves 17 052 14 + 2 skirts 17 052 08 + 2 springs 17 052 09
17 725 00	Rigid case for mask storage
17 790 65	Cleaning products EPI U-S (5 litres)
17 790 61	Dispenser of ALTUSIL (cleaning product for lenses)
17 795 02	Pliers for mask connection collar

Spare Parts Diagram for Optifit Twin full-face mask (p.32)

Marking	Reference	Description
01	17 150 56	5 Adjustable Points Head-Harness OPTI-FITo
02	17 150 65	OPTI-FIT Face Blank - Size "M"
03	17 151 21	Visor OPTI-FIT - TWIN
04	17 150 52	Upper Half Visor frame OPTI-FIT
05	17 150 53	Lower Half Visor frame OPTI-FIT
06	17 151 30	Screw N°8 - Lg.19 for Visor Frame
06'	17 150 67	Screw n°8 / length 3/4" for half visor frame
07	17 655 56	Inhalation valve flap
08	17 151 24	Filter Holder "T-SERIES"
09	17 151 22	Seal for Filter Holder (Visor & Holder)
10	17 150 62	Exhalation valve flap for OPTI-FIT
11	17 150 51	Joint Torique OPTI-FIT
12	17 151 20	OPTI-FIT Twin Connector
13	17 151 26	Grid Marked "SPERIAN-CE0194-EN136: 1998 CL2"
14	17 150 69	Inner mask valve seat
15	17 150 54	Inner mask OPTI-FIT
16	17 150 58	Temporal Buckle Holder OPTI-FIT
17	17 150 57	Front & Chin Buckle Holder OPTI-FIT
18	17 150 59	Quick release buckle OPTI-FIT

Marking	Reference	Description
19	17 150 60	Rectangle 10,2x20x2,3
20	17 151 23	Flat Seal for Filter Holder
21	17 150 70	Inner mask valve



Escape Masks

Evamasque: half-face evacuation mask for immediate escape from a dangerous environment

FEATURES	KEY POINTS	YOUR ADVANTAGES
ABEK1	Protection extended to include chemical hazards	High protection level
Small and lightweight	Easy to carry, takes up little space	Easy to wear (belt support)
Mask	Tighter and more comfortable than a mouthpiece	Easy to put in place by the user/Safe
Casing (sealed housing)	Compact and resistant	Safe

Reference	Description
17 285 00	Evamasque with ABEK1 filter
17 285 55	ABEK1 filter for Evamasque
17 282 98	50m roll of blue adhesive fabric - width: 19mm




OPENGO: a new concept to fit the user's needs in challenging chemical environments

	FEATURES	KEY POINTS	YOUR ADVANTAGES
BAG	Carefully designed bag	Ergonomic shape	Comfortable. No restriction of movement
BAG	Small and flat waist-bag	Small and light weight	Easy to wear
BAG	Velcro strip and zip on the bag	Single action opening	Easy and fast access to the hood
BAG	Adjustable belt	Fits everyone	Multi-positioned waist bag
BAG	Internal aluminium storage pouch	Long and reliable storage	Ready for use at any time for up to 6 years
BAG	Hood is stored flat in the bag	Visor and hood are not folded	Released from the packaging without distortion
BAG	Accessories can be added to the belt	Flexibility in use	It is possible to customize the product to your needs
HOOD	High visibility hood with 2 reflective	Easy to locate during evacuation	Safe
HOOD	2 wide elastic bands on the hood	Automatic positioning of the hood on the face	Self adjustment
HOOD	Silicone neck seal	Soft/Fits most neck sizes	Comfortable over the long-term
HOOD	Moulded silicone neck seal	Watertightness of the seal/Seal is resistant to tearing	Optimised protection and safety
HOOD	Protection of exhalation valve	Protects the valve membrane from liquid splash	Safe and reliable in use
HOOD	Panoramic visor	Wide field of vision	Less risk of trips and falls/Safe evacuation of the user

Reference	Description	Packaging
17 288 01	Opengo with ABEK1 filter	Comes in a carrying case with belt
17 288 06	Opengo with ABEK1 filter	Comes in a carrying case with belt
17 288 07	Opengo with ABEK1 filter	Comes in a carrying case with belt



NEW

PAPR with hood or mask

General Industry

Welding TH3

ATEX Area

Why use Zephyr?

3 versions:

- 2 filters without low flow alarm
- 2 filters with low flow alarm
- 3 filters with low flow alarm

> **Lightweight:** 800 g for complete motor unit with battery

> **Small:** the lightest and most compact battery on the market (350g)

> **Autonomous:** 8 hours of uninterrupted work with a quick charging time of 5 hours

> **Protective:** continuous flow of 160 litres/minute

> **Multipurpose:** choice of visors, hoods or masks

> **Safe:** Dual visual and audible alarms in case of low flow or low battery

> **Comfortable:** highly ergonomic belt for comfort with an optional shoulder harness

> **Efficient:** minimum pressure loss with 3 filters

> **Communicating:** speech diaphragm: communication made possible

Mask with set valve: Zephyr's largest asset

> **Maximum protection:** Protection factor 4 times higher when used in combination with a full face mask and M40 connector & set valve assembly

> **Superior comfort:** Increased respiratory comfort, as the over-pressure inside the respirator is constant (air available on request)

> **Economical and safe:** Filter life extended by up to 30%

Zephyr: Protection factors

Apparatus	NPF	APF
Zephyr TM + Panoramasque or Cosmo	2000	40
Zephyr TM + half-faced mask	200	20
Zephyr TH + CT1, CT6, VT1, CT4 or CT5	50	20
Zephyr + VT2	10	10

Powered Air Purifying Respirators

PAPR with hoods or visors

EN 12941

The references indicated correspond to a complete unit without filters and without a charger.	Gases/vapours and/or solid and liquid aerosols	Solid and liquid aerosols
		
	**Zephyr with hood T1** Complete unit for gas/vapours or combined protection Low battery and low flow alarms **Ref.: 17 932 62**	**Zephyr with hood T1** Complete unit for solid and liquid aerosols Low battery and low flow alarms **Ref.: 17 932 52**
	**Zephyr with hood T6** Complete unit for gas/vapours or combined protection Low battery and low flow alarms **Ref.: 17 932 65**	**Zephyr with hood T6** Complete unit for solid and liquid aerosols Low battery and low flow alarms **Ref.: 17 932 55**
	**Zephyr with hood T1** Complete unit for gas/vapours or combined protection Low battery and low flow alarms **Ref.: 17 932 60**	**Zephyr with hood T1** Complete unit for solid and liquid aerosols Low battery and low flow alarms **Ref.: 17 932 50**
	**Zephyr visor T2** Complete unit for gas/vapours or combined protection Low battery and low flow alarms **Ref.: 17 932 61**	**Zephyr visor T2** Complete unit for solid and liquid aerosols Low battery and low flow alarms **Ref.: 17 932 51**
	**Zephyr with hood T4** Complete unit for gas/vapours or combined protection Low battery and low flow alarms **Ref.: 17 932 63** **Zephyr with hood T5 and built-in helmet** Complete unit for gas/vapours or combined protection Low battery and low flow alarms **Ref.: 17 932 64**	**Zephyr with hood T4** Complete unit for solid and liquid aerosols Low battery and low flow alarms **Ref.: 17 932 53** **Zephyr with hood T5and built-in helmet** Complete unit for solid and liquid aerosols Low battery and low flow alarms **Ref.: 17 932 54**

See p.52

See p.52

PAPR with full face mask

EN 12942

The references indicated correspond to a complete unit without filters or charger.

	Gases/vapours and/or solid and liquid aerosols	Solid and liquid aerosols
		
	**Zephyr with Panoramasque, set valve, M40, speech diaphragm, SILICONE** Complete unit for gas/vapours or combined protection Low battery alarm **Ref.: 17 932 33** Same model **EPDM** **Ref.: 17 932 30**	**Zephyr with Panoramasque, set valve, M40, speech diaphragm,SILICONE** Complete unit for solid and liquid aerosols Low battery alarm **Ref.: 17 932 33** Same model **EPDM** **Ref.: 17 932 30**
	**Zephyr with Panoramasque RD40 connection, speech diaphragm,SILICONE** Complete unit for gas/vapours or combined protection Low battery alarm **Ref.: 17 932 03** Same model **EPDM** **Ref.: 17 932 00**	**Zephyr with Panoramasque RD40 connection, speech diaphragm, SILICONE** Complete unit for solid and liquid aerosols Low battery alarm **Ref.: 17 932 03** Same model **EPDM** **Ref.: 17 932 00**
	**Zephyr with Cosmo RD40 connection, speech diaphragmSILICONE** Complete unit for gas/vapours or combined protection Low battery alarm **Ref.: 17 932 04** Same model **EPDM** **Ref.: 17 932 01**	**Zephyr with Cosmo RD40 connection, speech diaphragm,SILICONE** Complete unit for solid and liquid aerosols Low battery alarm **Ref.: 17 932 04** Same model **EPDM** **Ref.: 17 932 01**
	**Zephyr with 1/2 mask equipped with an RD40 connection, EPDM** Complete unit for gas/vapours or combined protection Low battery alarm **Ref.: 17 932 02** Same model **SILICONE** **Ref.: 17 932 05**	**Zephyr with 1/2 mask equipped with an RD40 connection, EPDM** Complete unit for solid and liquid aerosols Low battery alarm **Ref.: 17 932 02** Same model **SILICONE** **Ref.: 17 932 05**

Filters

Reference	Code	Description
17 850 10		250 A2-A3 TM3-TM2 / A2 TH2
17 850 40		250 A2 B2-A3 B3 TM3-TM2 / A2 B2 TH2
17 850 00		300 A2 B2 E2 K1-A3 B3 E3 K2 TM3 TM2 / A2 B2 E2 K1 TH2
17 830 10		250 A2+P3-A3 P TM3 TM2 / A2 P TH2
17 830 40		250 A2 B2+P3-A3 B3 P TM3 TM2 / A2 B2 P TH2
17 830 10		250 A2 P3-A3 P TM3 TM2 / A2 P TH2
17 850 80		250 K2
17 830 80		250 K2 P3
17 830 00		300 A2 B2 E2 K1+P3-A3 B3 E3 K2 P TM3 TM2 / A2 B2 E2 K1 P TH2

Reference	Code	Description
17 860 00		P3-TM3/TM2 P/TH 2P

Charger
NON ATEX

Ref.: 17 931 00

See p.51

PAPR for Explosive Atmospheres

Zephyr ATEX for potentially explosive atmospheres is the safest and most multipurpose device on the market

Why ATEX?

IThe ATEX Directive 1999/92/CE has been adopted to decrease the risk of explosion.
It results from a framework directive on safety at the workplace (89/391/CEE).
It concerns the minimum prescriptions aiming to improve protection in terms of safety and the health of workers likely to be exposed to the hazards of explosive atmospheres.

II	Intended for surface work (not in mining)
1	**The highest protection level** - can be used in all zones without any limit in time (zone 0, 1, 2, 20, 21, 22) continuously (>100 hours/year)
GD	Zone 0, 1, 2 (gas) and 20, 21, 22 (dust): continued use
T 295	Maximum temperature for dust: 295°C
IP6X	**Seal against dust, without adding an additional envelope**

II 1 GD T295°C IP6X
EEX ia IIA T2

ATEX certification ATEX: CE-type examination – conducted by INERIS according to standards EN 50014, EN 50020, EN 50284, EN 50282-1-1
Number: INERIS 03ATEX0254

ia	Equipped with two separate elec tronic safety systems: **dual actual safety**
IIA	Can be used in the following gas environments: I: Gases of methane reference IIA: Gases of propane references
T2	Inflammation temperature for gases < 300°C

CAUTION

This apparatus meets directive ATEX 94/9/CE of 30 June 2003. Maintenance must be carried out only by an ATEX-approved service.

Classification of the premises according to standard EN60079

Classification of the premises according to standard EN60079 is carried out by the employer. There are 10 in terms of identification, duration, quantity, dispersion. The ZEPHYR is suitable for all areas.

Categories	Protection protection	ENVIRONMENT	
		Gases	Dust
1	Very high	**Zone 0** Location whereby an explosive atmosphere (consisting of a mixture of inflammable substances with the air in form of gas, vapour or mist) is present constantly, for a long period, or frequently	**Zone 20** Location whereby an explosive atmosphere in the form of a cloud of combustible dust is present in the air constantly, for a long period or frequently.
2	High	**Zone 1** Location whereby an explosive atmosphere (consisting of a mixture of inflammable substances with the air in the form of gas, vapour or mist) is likely to be present in normal conditions of operation.	**Zone 21** Location whereby an explosive atmosphere in the form of a cloud of combustible dust is likely to be present occasionally in normal conditions of operation.
3	Normal	**Zone 2** Location whereby an explosive atmosphere (consisting of a mixture of inflammable substances with the air in the form of gas, vapour or mist) is not likely to be present in conditions of normal operation or, when present, nevertheless for only a short period of time.	**Zone 22** Location in which an explosive atmosphere in the form of a cloud of combustible dust is not likely to be present in conditions of normal operation or, when present, for only a short period of time.

PAPR for Explosive Atmospheres

References available for Zephyr ATEX

Gases/vapours and/or solid and liquid aerosols

ZEPHYR ATEX unit
for 3 filters (RD40)
with hood T1

Ref.: 17 933 15

ZEPHYR ATEX unit
for 3 filters (RD40)
with hood T6

Ref.: 17 933 17

ZEPHYR ATEX
for 3 filters (RD40) THr

Ref.: 17 933 21

Solid and liquid aerosols (dust)

ZEPHYR ATEX unit
for 2 filters (RD40)
with hood T1

Ref.: 17 933 14

ZEPHYR ATEX unit
for 2 filters (RD40)
with hood T6

Ref. 17 933 16

ZEPHYR ATEX unit
for 2 filters (RD40),
Panoramasque, EPDM,
black ,set valve

Ref.: 17 933 18

ZEPHYR ATEX unit for
2 filters (RD40),
Panoramasque, silicone,
yellow, set valve

Ref.: 17 933 19

ZEPHYR ATEX unit
for 2 filters (RD40),
Panoramasque, EPDM,
black

Ref.: 17 933 24

ZEPHYR ATEX unit
for 2 filters (RD40),
Panoramasque, silicone,
yellow

Ref.: 17 933 25

The references indicated correspond to a complete unit without filters or charger.

ZEPHYR ATEX unit
for 2 filters (RD40), Cosmo,
EPDM, black

Ref.: 17 933 26

ZEPHYR ATEX unit
for 2 filters (RD40), Cosmo,
silicone, yellow

Ref.: 17 933 27

ZEPHYR ATEX for 2 filters
(RD40) with half-mask,
EPDM, black

Ref.: 17 933 28

ZEPHYR ATEX for 2 filters
(RD40) with half-mask,
silicone, Yellow

Ref.: 17 933 29

ZEPHYR ATEX for 2 filters
(RD40) without mask,
without hose, with charger

Ref.: 17 933 30

Options and Accessories for Zephyr ATEX

Reference	Code	Description
17 790 65		EPIU-S (cleaning disinfectant agent)
17 790 61		Burette of ALTUSIL (cleaning product for lenses)
17 101 80		Fitting for RD40 F connection of Zephyr hose
17 850 80		250 K2
17 830 80		250 K2 P3
17 830 10		250 A2 P3 A3 P TM3 TM2 / A2 P TH2
17 850 10		250 A2 A3 TM3 TM2 / A2 TH2
17 850 40		250 A2B2 A3B3 TM3 TM2 / A2B2 TH2
17 830 40		250 A2B2 P3 A3B3 P TM3 TM2 / A2B2 P TH2
17 850 00		300 A2B2E2K1 A3B3E3K2 TM3 TM2 / A2B2E2K1 TH2

Reference	Code	Description
17 830 00		300 A2B2E32K1 P3 A3B3E3K2 P TM3 TM2/A2B2E2K1 P TH2
17 860 00		P3 TM3 / TM2P / TH2P
17 931 77		Charger for Zephyr ATEX battery

See p.53

See p.53

PAPR for Asbestos Applications

Zephyra: ZEPHYR-Asbestos

FEATURES	KEY POINTS	YOUR ADVANTAGES
Reinforced plastic canister	Resistant	Sturdy
Weight	820g Battery included	Lightweight/comfort of use Mobility
Flow rate	Automatic regulation: 160 l/min	Safety
Wide PVC protective Belt	Smooth surface	Easy decontamination
Use in positive pressure with a Panoramasque respirator or a Cosmo (with set valve) and speech diaphragm	Air is delivered on demand according to respiratory needs.	Exceptional comfort, as good as a hood with a better protection factor
	Decreased air inlet (35 l/min for a mask compared to a hood 50 l/min)	Protection factor 4 x higher with respect to a hood Optimised filter service life
	Built-in speech diaphragm	Better communication

Reference	Description
17 931 59	Kit ZEPHYR-Asbestos with 2 filters P3, charger, Cosmo mask, silicone, carry bag
17 931 60	Kit ZEPHYR-Asbestos with 2 filters P3, charger, Cosmo mask, EPDM black, carry bag
17 932 20	ZEPHYR-Asbestos Panoramasque Standard, RD40, EPDM
17 932 21	ZEPHYR-Asbestos COSMO Standard, RD40, EPDM
17 932 22	ZEPHYR-Asbestos half-face mask, EPDM
17 932 23	ZEPHYR-Asbestos Panoramasque Standard, RD40, silicone
17 932 24	ZEPHYR-Amiante COSMO Standard RD40 Silicone
17 932 25	ZEPHYR-Asbestos half-face mask, silicone
17 932 40	ZEPHYR-Asbestos Panoramasque, Set valve M 40, EPDM
17 932 43	ZEPHYR-Asbestos Panoramasque, Set valve, silicone
17 932 45	ZEPHYR-Asbestos for 2 filters with complete Panoramasque mask, set valve, silicone yellow, protective case and harness
17 932 46	ZEPHYR-Asbestos for 2 filters with complete Panoramasque mask with set valve, EPDM black, protective case and harness

REAL WORLD PROTECTION 4 X HIGHER with the Panoramasque & Set valve

Options and Accessories for Zephyra

Reference	Code	Description
17 101 80		Fitting for RD40 F connection of the Zephyr hose
17 850 80		250 K2
17 830 80		250 K2 P3
17 830 10		250 A2 P3 A3 P TM3 TM2 / A2 P TH2
17 850 10		250 A2 A3 TM3 TM2 / A2 TH2
17 850 40		250 A2B2 A3B3 TM3 TM2 / A2B2 TH2
17 830 40		250 A2B2 P3 A3B3 P TM3 TM2 / A2B2 P TH2

Reference	Code	Description
17 850 00		300 A2B2E2K1 A3B3E3K2 TM3 TM2 / A2B2E2K1 TH2
17 830 00		300 A2B2E32K1 P3 A3B3E3K2 P TM3 TM2/A2B2E2K1 P TH2
17 860 00		P3 TM3 / TM2P / TH2P
17 790 65		EPIU-S (Cleaning disinfectant agent)
17 790 61		Burette of ALTUSIL (cleaning product for lenses)
17 931 00		Charger for Zephyr accumulator block

See p.51

PAPR with Welding headpiece

Complete assisted ventilation Zephyr by Sperian unit with optoelectronic mask OSEvolution by Optrel

FEATURES	KEY POINTS	YOUR ADVANTAGES
EN 12941 / 12942	Against particulates, gases and vapours	Multipurpose: 9 filtering possibilities
TH3	**The highest level of protection**	**Nominal Protection Factor 500**
Complete assisted ventilation kit Welding application	Zephyr + OSE Satellite + 2 filters P3 + charger	Comes in a complete kit, ready to operate
OSE Satellite by Optrel welding helmet		
Helmet in composite material	High resistance Suitable for all welding operations (except for laser)	Hold with no deformation at 220°C Multipurpose
Knitted face seal in Protex™	Flame-retardant Supple, ventilated and good hold at contact points	Safe, comfortable, optimised seal
Eye protection	Shades 5 to 13 External controls Auto darkening filter	Full protection Easy to use
Assisted Ventilation ZEPHYR by Sperian		
Autonomous	8 hours of work, non-stop	Complete autonomy
Weight	820g, battery include	Lightweight - easy to use
Flow rate	Continuous flow of 160l/min	Protection guaranteed
Ergonomic comfort belt	Suitable for 2 or 3 filters	Comfort and multipurpose

UNIQUE for WELDING
TH3 according to EN 12941,
Nominal Protection Factor 500
APF 40

Reference	Description
17 930 19	Zephyr complete welding kit with OSEvolution optoelectronic mask (complete with a carry bag, flame retardant hose cover, battery charger. 1 battery, 2 x P3 filters, comfortable support belt). Two port blower unit for protection against dusts and fumes only.
17 930 37	Zephyr complete welding kit with OSEvolution optoelectronic mask (complete with a carry bag, flame retardant hose cover, battery charger. 1 battery, comfortable support belt). Three port blower unit for use with combination fliters to allow for additional protection against gases and vapours
17 930 38	Zephyr complete welding kit without optoelectronic mask

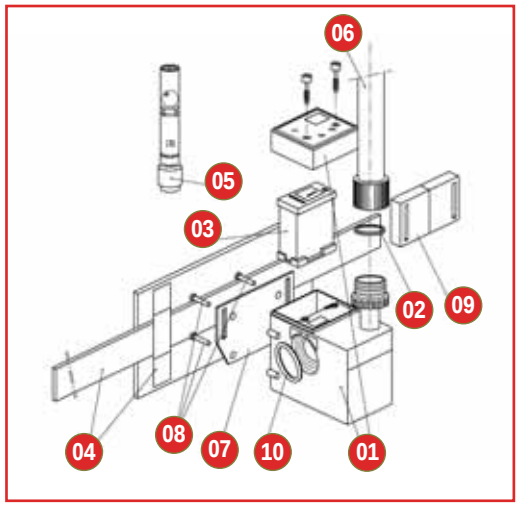
Options and Accessories for Zephyr with OSEvolution helmet

Reference	Description
17 850 10	Filter TH2-TH1 A2P for ZEPHYR fan
17 850 40	Filter TH2-TH1 AB2 for ZEPHYR fan
17 830 40	Filter TH2-TH1 AB2P for ZEPHYR fan
17 850 00	Filter TH2-TH1 ABE2K1 for ZEPHYR fan
17 830 00	Filter TH2-TH1 ABE2K1P for ZEPHYR fan

Reference	Description
17 860 00	Filter TH2-TH1 P for ZEPHYR fan
17 790 65	EPI U-S (cleaning disinfectant agent)
17 790 61	Burette of ALTUSIL
17 931 00	Charger for ZEPHYR accumulator block

Spare Parts Diagram for Zephyr

Marking	Reference	Description
/	17 931 95	OPTREL OSE helmet
/	17 932 88	Hose cover Ø32 length 1090
02	17 101 80	Joint for RD40 connection of the ZEPHYR hose
03	17 931 01	Joint for RD40 connection of the ZEPHYR hose
04	17 931 41	Canvas belt for ZEPHYR 2 filters (belt without buckle)
04'	17 931 40	Canvas belt for ZEPHYR 3 filters (belt without buckle)
05	17 931 02	Flow indicator 130-160 l/min for ZEPHYR
06	17 931 08	Hose Ø32 RD40 length 900
06'	17 931 94	Hose Ø32 RD40 length 1050
07	17 931 21	Retainer plate ZEPHYR
08	17 931 43	Screw TCB for ZEPHYR
09	15 636 77	Buckle for ZEPHYR canvas belt
10	17 931 24	Flat gasket for ZEPHYR



PAPR headpiece and visor

TURBOVISOR MV: TH2 particulate protection

FEATURES	KEY POINTS	YOUR ADVANTAGES
Headpiece	Lightweight	Easy to wear, causes less fatigue
Large visor	Wild field of vision	Work in complete safety
Visor and face seal	Changed independently	Flexibility, lower running costs
Acetate visor	High resistance to solvent attack	For industries where there is a risk of chemical splash
Polycarbonate visor (standard)	Impact resistant	For general industry, or where there is a risk of high speed impacts
Disposable visor covers	Protection of the main visor	Excellent vision while increasing the visor's service life and reducing costs
6 hour version, battery mounted on headband	Compact design No external power cable	Easy to put on No risk of cable becoming trapped in moving machinery
8 hour version, battery worn on user's belt	Less weight on headpiece	Longer working period
Choice of filter types	Electrostatic filter with or without carbon (ov) layer	Economical
Pre-filter (standard)	Prevents premature clogging of main filter	Extends service life of main filter and reduces overall running costs

For use in the United Kingdom and Ireland (three-pin battery chargers)

Reference	Description
10 017 68	DTMV-1001 Turbovisor MV complete with polycarbonate visor (EN166 39-B), fabric face seal cassette, main filter and pre-filter, two disposable visor covers, 8 hour waist mounted battery pack, battery charger, cotton head cover, air flow test disc and fabric carrying bag
10 017 70	DTMV-1201 Turbovisor MV complete with polycarbonate visor (EN166 39-B), fabric face seal cassette, main filter and pre-filter, two disposable visor covers, 6 hour head mounted battery pack, battery charger, cotton head cover, air flow test disc and fabric carrying bag

For use in Europe (two-pin battery chargers)

Reference	Description
10 017 69	DTMV-1002 Turbovisor MV complete with polycarbonate visor (EN166 39-B), fabric face seal cassette, main filter and pre-filter, two disposable visor covers, 8 hour waist mounted battery pack, battery charger, cotton head cover, air flow test disc and fabric carrying bag
10 017 71	DTMV-1202 Turbovisor MV complete with polycarbonate visor (EN166 39-B), fabric face seal cassette, main filter and pre-filter, two disposable visor covers, 6 hour head mounted battery pack, battery charger, cotton head cover, air flow test disc and fabric carrying bag

NPF 50 - APF 20

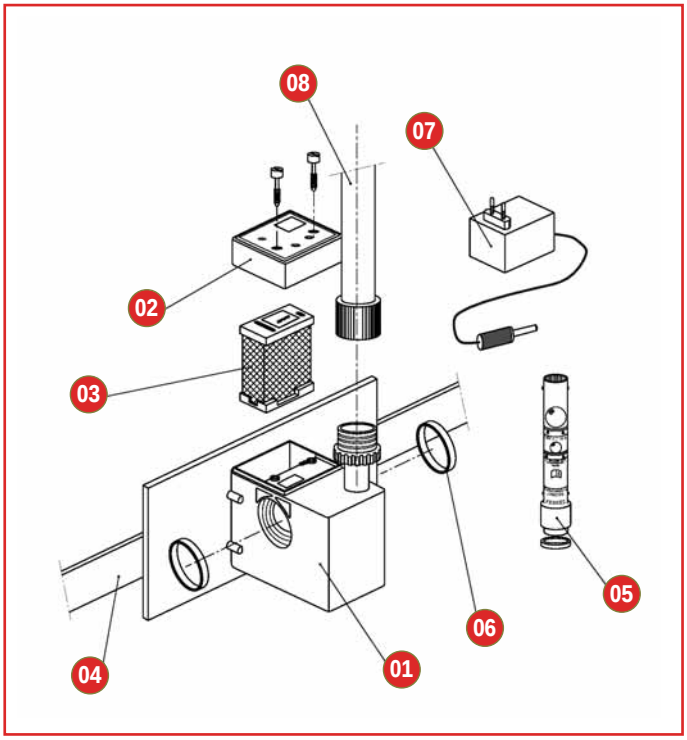
See p.55

See p.55

Spare parts and accessories

Spare Parts Diagram Zephyr TM with approved masks (p.45) and ZEPHYRA (p.48)

Reference	Approved products
17 103 95	PANO RD40 speech diaphragm, Sperian EPDM black
17 105 01	COSMO RD40 Sperian silicone yellow
17 105 21	COSMO RD40 Sperian EPDM black
17 106 81	PANO RD40, speech diaphragm, Sperian, EPDM, blackwith set valve
17 106 83	PANO RD40, speech diaphragm, Sperian silicone, yellow with set valve
17 109 87	PANO RD40 speech diaphragm, Sperian, silicone, yellow
17 265 12	Half-face mask, silicone, yellow with RD40 connection RD40 X 1/7"
17 265 92	Half-face mask RD40 Sperian EPDM black
17 636 77	Buckle for canvas belt, Zephyr
17 931 20	Elastomer loop for Zephyra 2 filters



TM = Turbo Mask = with mask
TH = Turbo Hood = with hood or visor

Marking	Reference	Description
01	17 931 25	Motor unit Zephyr 2 filters
02	17 931 13	Control module Zephyr 2 filters
03	17 931 01	Battery pack for Zephyr
04	17 931 41	Canvas belt for Zephyr2 filters (without buckle)
04	17 629 53	Decontaminable belt with buckle for ZephyrA
05	17 931 02	Flow indicator 130-160l/min for Zephyr
06	17 931 24	Flat gasket for Zephyr
07	17 931 00	Charger for Zephyr battery pack
08	17 931 08	Hose ø32 RD40 for Zephyr mask with non-set valve
08	17 931 44	Hose ø32 M40 for Zephyr mask with non-set valve

Options and Accessories for Zephyr TM (p.45) and ZEPHYRA (p.48)

Reference	Code	Description
17 101 80		Fitting for RD40 F connection of the Zephyr hose
17 850 80		250 K2
17 830 80		250 K2 P3
17 830 10		250 A2 P3 A3 P TM3 TM2 / A2 P TH2
17 850 10		250 A2 A3 TM3 TM2 / A2 TH2
17 850 40		250 A2B2 A3B3 TM3 TM2 / A2B2 TH2
17 830 40		250 A2B2 P3 A3B3 P TM3 TM2 / A2B2 P TH2
17 850 00		300 A2B2E2K1 A3B3E3K2 TM3 TM2 / A2B2E2K1 TH2
17 830 00		300 A2B2E32K1 P3 A3B3E3K2 P TM3 TM2/A2B2E2K1 P TH2
17 860 00		P3 TM3 / TM2P / TH2P
17 790 65		EPIU-S (cleaning disinfectant agent)
17 790 61		Dispenser of ALTUSIL (cleaning product for lenses)
17 931 00		Charger for Zephyr battery pack
17 931 51		ZEPHYR for mask with belt and hose without head equipment, without charger, without filter
17 933 54		Box of 10 protective covers for ZEPHYR-Asbestos

Non ATEX charger

Ref.: 17 931 00

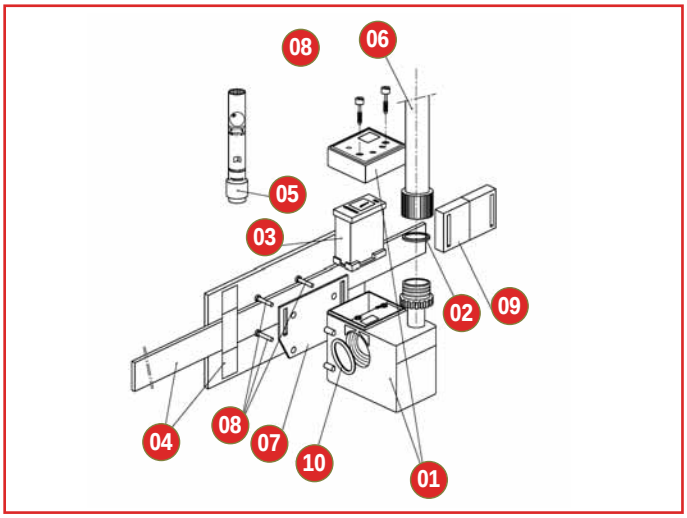
Spare parts and accessories

Spare Parts Diagram for Zephyr TH with approved hoods or visors (p.44)

Reference	Approved products
17 600 14	Hood T1
17 600 25	Visor T1
17 600 26	Visor T2
17 609 00	Hood T4
17 609 01	Hood T5
17 609 02	Hood T6
17 932 88	Hose cover Ø32 length 1090

Marking	Reference	Description
01	17 931 17	Motor unit Zephyr AH Sperian 2 filters
01'	17 931 18	Motor unit Zephyr AH Sperian 3 filters
02	17 101 80	Joint for RD40 F connection of the Zephyr hose
03	17 931 01	Battery pack for Zephyr
04	17 931 41	Canvas belt for Zephyr 2 filters (belt without buckle)
04'	17 931 40	Canvas belt for Zephyr3 filters (belt without buckle)
05	17 931 02	Flow indicator 130-160 l/min for Zephyr
06	17 931 08	Hose Ø32 RD40 length 900
06'	17 931 94	Hose Ø32 RD40 length 1050
07	17 931 21	Retainer plate Zephyr

Marking	Reference	Description
08	17 931 43	Screw TCB for Zephyr
09	17 636 77	Buckle for canvas belt Zephyr
10	17 931 24	Flat gasket for Zephyr



TM = Turbo Mask = with mask
TH = Turbo Hood = with hood or visor

Options and Accessories for Zephyr TH (p.44)

Reference	Code	Description
17 850 80		Fitting for RD40 F connection of the ZEPHYR hose
17 830 80		250 K2 P3
17 830 10		250 A2 P3 A3 P TM3 TM2 / A2 P TH2
17 850 10		250 A2 A3 TM3 TM2 / A2 TH2
17 850 40		250 A2B2 A3B3 TM3 TM2 / A2B2 TH2
17 830 40		250 A2B2 P3 A3B3 P TM3 TM2 / A2B2 P TH2
17 850 00		300 A2B2E2K1 A3B3E3K2 TM3 TM2 / A2B2E2K1 TH2
17 830 00		300 A2B2E32K1 P3 A3B3E3K2 P TM3 TM2/A2B2E2K1 P TH2
17 860 00		P3 TM3 / TM2P / TH2P
17 790 65		EPIU-S ((cleaning disinfectant agent)
17 790 61		Dispenser of ALTUSIL (cleaning product for lenses)
17 931 00		Charger for ZEPHYR battery pack
17 931 53		ZEPHYR 3 filters for hood with belt and hose without head equipment, without charger, without filter
17 931 54		ZEPHYR 2 filters for hood with belt and hose without head equipment, without charger, without filter

Maintenance planning for the Zephyr TM and Zephyr TH

OPERATION	SYSTEM IN SERVICE	STORED SYSTEM
Cleaning, disinfection	After each use	NA
Changing connection fittings RD40 X 1/7" female fan connection	Every year	Every other year
Visual inspection	Before and after each use	NA
Air flow control	Before each use	NA

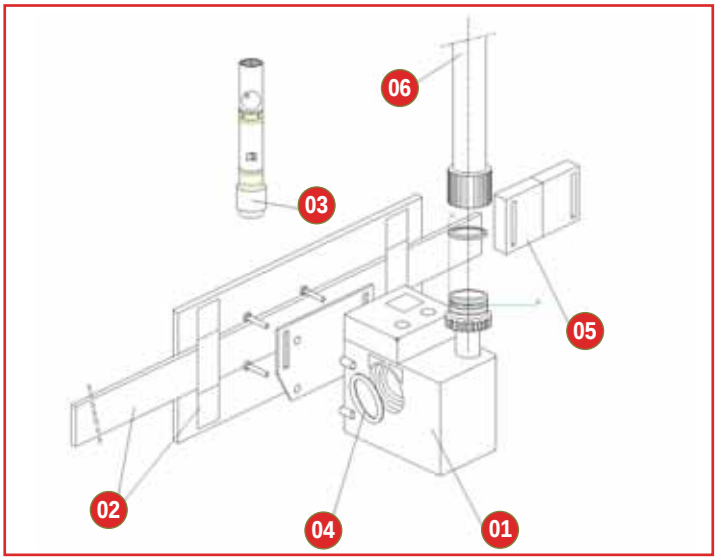
Spare parts and accessories

Spare Parts Diagram for Zephyr TM ATEX (with masks) (p.47)

Reference	Approved products
17 103 95	PANO RD40, speech diaphragm, Sperian, EPDM, black
17 105 21	COSMO RD40, Sperian by Wilson EPDM, Black
17 106 81	PANO M40, speech diaphragm, Sperian, EPDM, black with set valve
17 106 83	PANO M40, speech diaphragm, Sperian, silicone, yellow with set valve
17 109 87	PANO RD40, speech diaphragm, Sperian, silicone, yellow
17 265 12	Half-face mask, silicone, yellow with RD40 connection x 1/7"
17 265 92	Half-face mask RD40 Sperian, EPDM, black
17 931 77	Special charger for ZEPHYR ATEX battery pack

Marking	Reference	Description
01	17 931 72	Motor unit with battery pack Zephyr 2 filters for ATEX
02	17 931 41	Canvas belt for Zephyr 2 filters (belt without buckle)
03	17 931 02	Flow indicator 130-160 l/min for Zephyr
04	17 931 24	Flat gasket for Zephyr
05	15 636 77	Buckle for canvas belt Zephyr

Marking	Reference	Description
06	17 931 08	Hose Ø32 RD40 for Zephyr mask with non-set valve
06'	17 931 44	Hose Ø32 M40 for Zephyr mask with set valve



TM = Turbo Mask = with mask
TH = Turbo Hood = with hood

Options and Accessories for Zephyr TM ATEX (p.47)

Reference	Code	Description
17 101 80		Fitting for RD40 F connection of Zephyr hose
17 850 80		250 K2
17 830 80		250 K2 P3
17 830 10		250 A2 P3 A3 P TM3 TM2 / A2 P TH2
17 850 10		250 A2 A3 TM3 TM2 / A2 TH2
17 850 40		250 A2B2 A3B3 TM3 TM2 / A2B2 TH2
17 830 40		250 A2B2 P3 A3B3 P TM3 TM2 / A2B2 P TH2
17 850 00		300 A2B2E2K1 A3B3E3K2 TM3 TM2 / A2B2E2K1 TH2
17 830 00		300 A2B2E32K1 P3 A3B3E3K2 P TM3 TM2/A2B2E2K1 P TH2
17 860 00		P3 TM3 / TM2P / TH2P
17 790 65		EPIU-S (cleaning disinfecting agent)
17 790 61		Dispenser of ALTUSIL (cleaning product for lenses)
17 931 77		Special charger for ZEPHYR ATEX battery pack

Maintenance Schedule for Zephyr TM ATEX

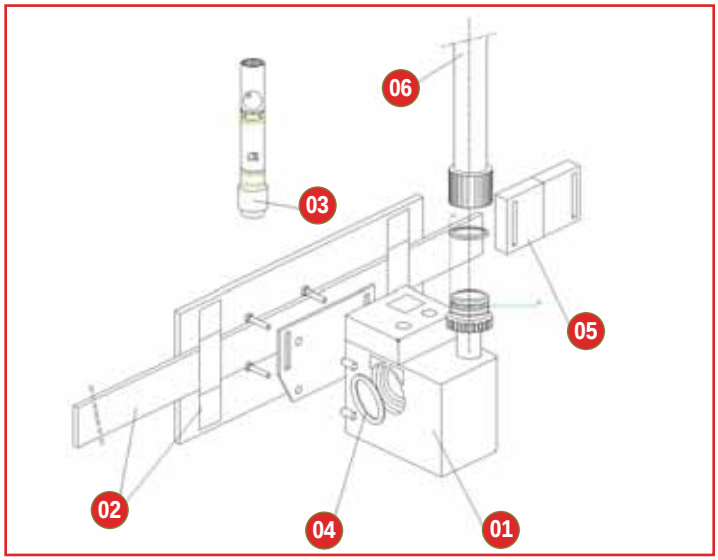
OPERATION	SYSTEM IN SERVICE	STORED SYSTEM
Cleaning, disinfection	After each use	NA
Changing connection fittings RD40 X 1/7" female fan connection	Every year	Every other year
Visual inspection	Before and after each use	NA
Air flow control	Before each use	NA

Spare parts and accessories

Spare Parts Diagram for Zephyr TH ATEX (with hood) (p.47)

Reference	Approved products
17 609 02	Hood T6 for Zephyr
17 931 77	Special charger for ZEPHYR ATEX battery pack

Marking	Reference	Description
01	17 931 71	Motor unit with accumulator Zephyr AH Sperian 2 filters for ATEX
01'	17 931 74	Motor unit with accumulator Zephyr AH Sperian 3 filters for ATEX
02	17 931 41	Canvas belt for Zephyr 2 filters (belt without buckle)
02'	17 931 40	Canvas belt for Zephyr 3 filters (belt without buckle)
03	17 931 02	Flow indicator 130-160 l/min for Zephyr
04	17 931 24	Flat gasket for Zephyr
05	15 636 77	Buckle for canvas belt Zephyr
06	17 931 08	Hose Ø32 RD40 for Zephyr mask with non-set valve



TM = Turbo Mask = with mask
TH = Turbo Hood = with hood

Options and Accessories for Zephyr TH ATEX

Reference	Code	Description
17 101 80		Fitting for RD40 F connection of the Zephyr hose
17 850 80		250 K2
17 830 80		250 K2 P3
17 830 10		250 A2 P3 A3 P TM3 TM2 / A2 P TH2
17 850 10		250 A2 A3 TM3 TM2 / A2 TH2
17 850 40		250 A2B2 A3B3 TM3 TM2 / A2B2 TH2
17 830 40		250 A2B2 P3 A3B3 P TM3 TM2 / A2B2 P TH2
17 850 00		300 A2B2E2K1 A3B3E3K2 TM3 TM2 / A2B2E2K1 TH2
17 830 00		300 A2B2E32K1 P3 A3B3E3K2 P TM3 TM2/A2B2E2K1 P TH2
17 860 00		P3 TM3 / TM2P / TH2P
17 790 65		EPIU-S (cleaning disinfectant agent)
17 790 61		Dispenser of ALTUSIL (cleaning product for lenses)
17 931 77		Special charger for ZEPHYR ATEX battery pack

Maintenance Schedule for the Zephyr TH ATEX

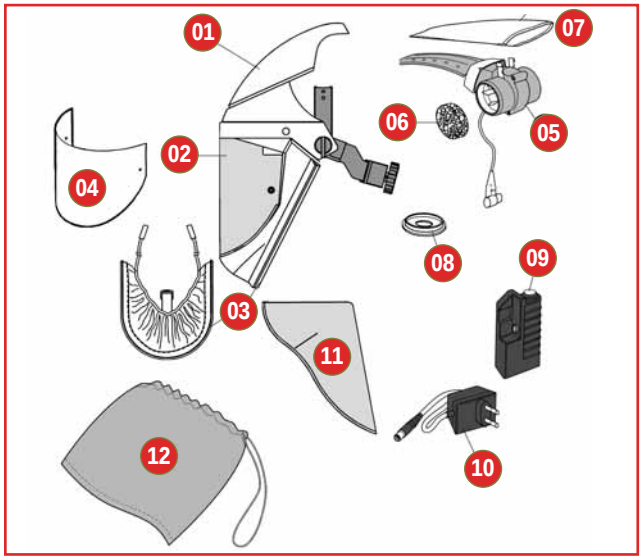
OPERATION	SYSTEM IN SERVICE	STORED SYSTEM
Cleaning, disinfection	After each use	NA
Changing connection fittings RD40 X 1/7" female fan connection	Every year	Every other year
Visual inspection	Before and after each use	NA
Air flow control	Before each use	NA

Spare parts and accessories

Spare Parts Diagram for Turbovisor MV - Ref: 10 017 68 and 10 017 69 (p.50)

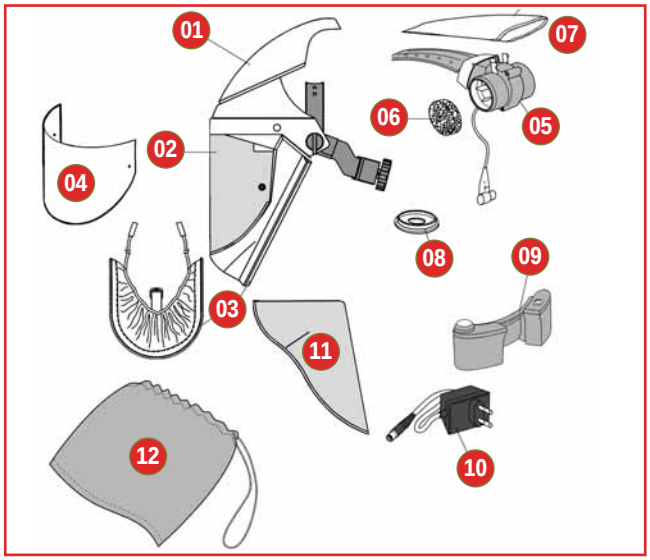
Reference	Approved products	Former Reference
10 017 68	Complete kit (UK & Ireland)	DTMV-1001
10 017 69	Complete kit (Europe)	DTMV-1002

Marking	Reference	Description	
01	10 017 72	Browguard and frame	DTVS-1501
02	10 017 74	Polycarbonate visor (pack of 5)	DTVS-1503/5
03	10 017 81	Fabric cassette (pack of 5)	DTVS-1510/5
04	10 017 78	Visor covers (pack of 10)	DTVS-1507/10
	10 017 79	Visor covers (pack of 50)	DTVS-1508/50
05	10 017 77	8 hour blower unit	DTVS-1506
06	10 017 97	Prefilter (pack of 10)	DTVS-3170/10
07	10 017 93	Main particulate filter (pack of 2)	DTVR-TH2-2
	10 017 94	Particulate and odour filter	DTVR-TH2-C
08		Disc for flow test	DTVS-3190
09	10 017 92	8 hour battery pack	DTVR-BP2
10	10 017 37	8 hour charger (UK & Ireland)	DTMVR-CH3
10	10 017 34	8 hour charger (Europe)	DTMVR-CH4
11	10 017 90	Cotton head cover (pack of 5)	DTVS-3072/5
12	10 017 38	Carry bag	DAF-8083



Spare Parts Diagram for Turbovisor MV - Ref: 10 017 70 and 10 017 71 (p.50)

Marking	Reference	Approved products	Former Reference
01	10 017 73	Browguard and frame	DTVS-1502
02	10 017 74	Polycarbonate visor (pack of 5)	DTVS-1503/5
03	10 017 81	Fabric cassette (pack of 5)	DTVS-1510/5
04	10 017 78	Visor covers (pack of 10)	DTVS-1507/10
	10 017 79	Visor covers (pack of 50)	DTVS-1508/50
05	10 017 76	6 hour blower unit	DTVS-1505
06	10 017 97	Prefilter (pack of 10)	DTVS-3170/10
07	10 017 93	Main particulate filter (pack of 2)	DTVR-TH2-2
	10 017 94	Filtre à particules et odeur	DTVR-TH2-C
08		Disc for flow test	DTVS-3190
09	10 017 82	6 hour battery pack	DTVS-1511
10	10 018 03	6 hour charger (UK & Ireland)	DTVS-6504
10	10 018 05	6 hour charger (Europe)	DTVS-6507
11	10 017 90	Cotton head cover (pack of 5)	DTVS-3072/5
12	10 017 38	Carry bag	DAF-8083



Loose fitting visors

AIRVISOR: Lightweight and compact, very simple and reliable in use

FEATURES	KEY POINTS	YOUR ADVANTAGES
Headpiece	Lightweight	Easy to wear creating less fatigue
Large visor	Wide field of vision	Painting made easy Less risk of trips and falls Safe
Designed with an air diffuser	Optimal flow regulation in the visor	Comfortable Safe
Acetate visor (DAVK-0001/0003)	Designed specially for chemicals and paint	Less degradation due to solvent attack
Polycarbonate visor (DAVK-0004 only)	Impact resistant	For the general industry, or where there is a risk of damage from flying particles
Disposable visor covers (all models)	Protection of the main visor	Excellent vision while increasing the service life of the main visor and reducing overall costs
Head and neck cover	Personal hygiene	Provided in a kit/ready for operation

Ref.: 10 016 41 - DAVK-0001

NPF 100 - APF 40

Reference	Description
10 016 41	DAVK-0001 Standard Airvisor Paint Spraying kit complete with: acetate chemical resistant visor (EN166 3-F), spraygun air hose with quick release connectors, two disposable visor covers, fabric hood and neck cover, waistbelt complete (DAVW-1001), carrying bag.
10 016 42	DAVK-0003 Standard Airvisor Chemical kit complete with: acetate chemical resistant visor (EN166-3F), two disposable visor covers and neck cover, waistbelt complete (DAVW-1003), carrying bag.
10 016 43	DAVK-0004 Standard Airvisor Industrial kit complete with: polycarbonate visor (EN166 39-B), two disposable visor covers and neck cover, waistbelt complete (DAVW-1003), carrying bag.

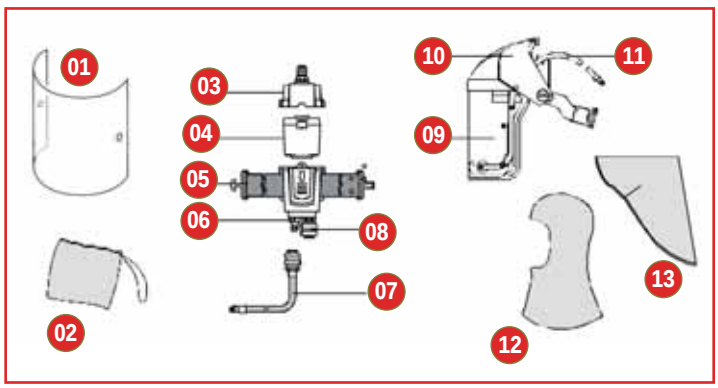
Ref.: 10 016 42 - DAVK-0003
10 016 43 - DAVK-0004

NPF 100 - APF 40

See p.63

Maintenance Guide

Marking	To be changed:
01	Once of twice a day
02	Six to nine months
03	One to three years
04	1000 hours maximum
05	Two to three years
06	One to two years
07	One to two years
08	One to two years
09	Three to four weeks
10	One to two years
11	Three to nine months
12	Daily
13	Monthly



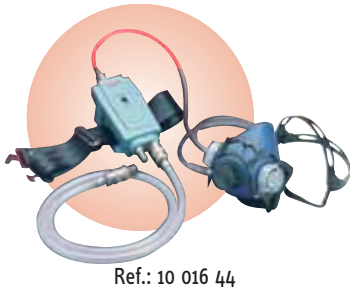
Loose fitting visors

AIRVISOR MV: Modern lightweight design, flexible use of consumables with reduced costs

FEATURES	KEY POINTS	YOUR ADVANTAGES
Headpiece	Lightweight	Easy to wear, creating less fatigue
Large visor	Wide field of vision	Painting made easy Less risk of trips and falls Safe
Visor and Face seal cassette	Can be changed independently	Flexibility and cost savings
Designed with an air diffuser	Optimal flow regulation in the visor	Comfortable
Acetate visor (DMAK-0021 and 0023)	Designed specially for chemicals and paint	Less degradation due to solvent attack
Polycarbonate visor (DMAK-0024 only)	Impact resistant	For the general industry, or where there is a risk of damage from flying particles
Disposable visor covers (all models)	Protection of the main visor	Excellent vision while increasing the service life of the main visor and reducing overall costs
Head and neck cover	Personal hygiene	Provided in a kit/ready for operation

Ref.: 10 016 45 - DMAK-0021

NPF 100 - APF 40



Ref.: 10 016 44
DHMK-0006

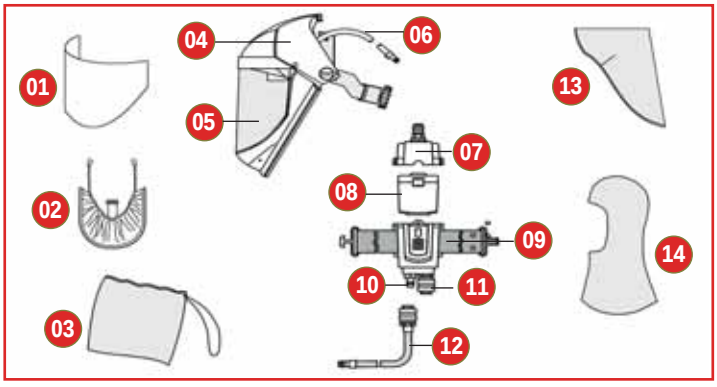
NPF 50 - APF 20

Reference	Description
10 016 44	DHMK-0006 Half mask Paint Spraying kit complete with: waistbelt (DAVW-1001), googles, spraygun airhose and fabric hood.
10 016 45	DMAK-0021 Airvisor MV Paint Spraying kit complete with: acetate chemical resistant visor (EN166 3-F), spraygun air hose with quick release connectors, one fabric face seal casse te, two disposable visor covers, fabric hood and neck cover, waistbelt complete (DAVW-1001), carrying bag.
10 016 46	DMAK-0023 Airvisor MV Chemical kit complete with: acetate chemical resistant visor (EN166 3-F?) one fabric face seal cassette, two disposable visor covers, waistbelt complete (DAVW-1003), carrying bag.
10 016 47	DMAK-0024 Airvisor MV Industrial kit complete with: polycarbonate visor (EN166 39-B). one fabric face seal cassette, two disposable visor covers and neck cover, waistbelt complete (DAVW-1003), carrying bag.

Maintenance Guide

See p.64

Marking	To be changed:
01	Once or twice a day
02	Once or twice a week
03	Six to nine months
04	One to two years
05	Three to four weeks
06	Three to nine months
07	One to three years
08	1 000 hours maximum
09	Two to three years
10	One to two years
11	One to two years
12	One to two years
13	Monthly
14	Daily



Loose fitting visors for welding

W-Series: Sleek modern design, very flexible in use

FEATURES	KEY POINTS	YOUR ADVANTAGES
Headpiece	Special in-house design	Easy to use in a variety of operations
With outer welding screen in dow position	A choice of filters to suit the welding process	Allows use of fixed shade or electronic ADF filters, gives total flexibility in use
With outer welding screen in up position	For remedial work such as chipping and grinding	This type of work can be carried out as normal, the inner visor system maintains respiratory protection
Large polycarbonate internal visor polycarbonate	Wide field of vision during remedial work or periods between welding	Less risk of trips and falls, safe to use in the cluttered working area protection from impacts
Disposable visor covers for internal screen	Protection of the main internal visor and reducing overall costs	Excellent vision while increasing the service life of the main visor
Visor and Face seal cassette	Can be changed independently	Flexibility and cost savings
Designed with an air diffuser	Optimal flow regulation in the visor	Comfortable and safe
Flame retardant head and neck cover	Provided in the kit, ready to use	Personal protection
Waistbelt can be adapted to run auxiliary air tool, by adding socket part DAF-6311 (1001722)	Allows respirator and auxiliary air tool to be supplied by just one air line	Convenience for the welder, plus fewer air lines in the working area, less risk of trips or falls

NPF 100 - APF 40

Reference	Description
10 017 45	DAWK-4011 W-Series air supplied welding kit with high temperature welding shell, viewing window (size 90mm x 110mm), polycarbonate inner visor (EN166 39-B), one flame retardant fabric face seal cassette, one flame retardant neck cover, air supply tube and diffuser, waistbelt with carbon cartridge and regulator, carrying bag. Welding filter not included.

FV-Series: Compact and robust - low running costs

FEATURES	KEY POINTS	YOUR ADVANTAGES
Headpiece	Small, light and very	Ideal for use in the most arduous
With outer welding screen in down position	A choice of filters to suit the welding process	Allows use of fixed shade or electronic ADF filters, gives total flexibility in use
With outer welding screen in up position	For remedial work such as chipping and grinding	This type of work can be carried out as normal, the inner visor system maintains respiratory protection
Large polycarbonate internal visor	Wide field of vision during remedial work or periods between welding	Less risk of trips and falls, safe to use in the cluttered working area – protection from impacts
Disposable visor covers for internal screen	Protection of the main internal visor	Excellent vision while increasing the service life of the main visor and reducing overall costs
Designed with an air diffuser	Optimal flow regulation in the visor	Comfortable and safe
Waistbelt can be adapted to run auxiliary air tool, by adding socket part DAF-6311 (1001722)	Allows respirator and auxiliary air tool to be supplied by just one air line	Convenience for the welder, plus fewer air lines in the working area, less risk of trips or falls

NPF 100 - APF 40

Reference	Description
10 017 43	DAWK-4001 FV-Series air supplied welding kit with high temperature welding shell, viewing window (90mm x 110mm), polycarbonate inner visor (EN166 39-B), air supply tube with diffuser, waistbelt with carbon cartridge and air regulator, fabric carrying bag. Welding filter not included.

Compressed airline filtration systems

CLEARFLOW 2: A range of models to provide breathing quality air for Airvisor respirators and the MC range

FEATURES	KEY POINTS	YOUR ADVANTAGES
New modern one-piece design	Very robust but lightweight aluminium body	Removes the need for the use of vulnerable external 'filter bowls' and auxiliary parts
New design shields fluid drains	External drains are protected from damage by a moulded skirt	Eliminates costly repairs & unexpected downtime
Modular design with 'Cliplok' system	Component parts are attached to the wall, and to each other, by a system of hand operated clips.	No tools are required. Simple and direct assembly and maintenance
High flow system (up to 1,600 l/min, depending upon user's compressor and the limitations imposed by his compressed air system/network).	More air flow than previous models	Future-proof against any increase in the demands of auxiliary tools such as sprayguns
High efficiency coaslescing filter	Filtering down to 0.01 micron Typical efficiency = 99.97% (0.3 to 0.6 micron)	Extremely good performance in the removal of solid particles
High capacity adsorber (carbon) filter	Maximum oil 'carry over' = 0.008 ppm w/w	Extremely effective removal of residual odours
Positive 'bayonet' locking system for filters	No tools are required to replace internal filter elements	Simple and direct servicing (one handed operation)
Differential pressure indicator (coalescing filter stage)	Pop up indicator tells the user when it is time to change the filter	Simple and safe
High quality regulator	Rolling diaphragm/balanced valve/relieving type (8 bar)	Optimum control and long service life
Complete with isolating valve	Ensures that flow can be stopped locally	Ensures safe and efficient servicing in the workplace
No small or easily lost parts	Less to go wrong	Reduced risk of problems and unexpected downtime
Tamper-proof accessories (for use with padlocks)	Flow can not be adjusted by another worker	Certainty of full control and safety for the user

Wall mounted with standard filter

Wall mounted with combination filters

Stand mounted with standard filter

Stand mounted with combination filters

NEW

Reference	Description	
10 169 60	Standard filter system wall mounted (for Airvisor),	DCF-2151/T
10 169 61	Standard filter system on portable stand (for Airvisor)	DCF-2154/T
10 169 62	Combination filter system wall mounted (for Airvisor)	DCF-2152/T
10 169 63	Combination filter system on portable stand (for Airvisor)	DCF-2155/T
10 169 64	Standard filter system wall mounted (for MC Range) *	DCF-2156/T
10 169 65	Standard filter system on portable stand (for MC Range) *	DCF-2157/T
10 169 66	Combination filter system wall mounted (for MC Range) *	DCF-2158/T
10 169 67	Combination filter system on portable stand (for MC Range) *	DCF-2159/T

** Supplied without Quick Release Connectors - for use with the MC range those items are to be purchased separately according to the specific needs of the user.*

Clearflow systems are not items of Personal Protective Equipment

Sperian BLUELINE Hoses: A selection of hose lengths to suit your workplace

Manufactured from food grade PVC tubing

Reference	Name	Description
10 017 26	DAF-7319	Blueline hose, length 3.5m with quick release couplings
10 017 27	DAF-7351	Blueline hose, length 7.5m with quick release couplings
10 147 16	DAF-7350	Blueline hose, length 10m with quick release couplings
10 017 28	DAF-7352	Blueline hose, length 15m with quick release couplings
10 017 30	DAF-7355	Blueline hose, length 20m with quick release couplings
10 017 29	DAF-7353	Blueline hose, length 30m with quick release couplings
17 600 87	DAF-7353	Hose 9 x 16, length 10m with RBE6 connection
17 640 02	DAF-7353	Drum with 60m of hose 9 x 16 and RBE6 connection

Sperian Blueline hoses form part of the certification of the Airvisor family of respirators - they should always be used to make the connection between Clearflow 2 filter systems and the Airvisor waistbelt.

See p.65

Supplied-air with mask

MC91A: Protection still available when disconnected from air supply

FEATURES	KEY POINTS	YOUR ADVANTAGES
Double safety filter	Filtered ventilation of ambient air	Safe
Minimum flow of 160 litres (160 – 300)	Legal obligation in France	Increases worker safety
PVC waistbelt	No product fastened to the PVC	Easy decontamination by the user
Downstream safety valve	No untimely external intake in case of accidental depression	Safe
Filtration in series	Disconnection downstream the filter	Safety ensured during handling with respect to a parallel system
Waistbelt safe fastening system	Provides support without respirator traction	Safe Comfortable
COSMO Respirator EPDM	The Cosmo is sturdy	Long service life
Direct connection a system 7 bars via a 10m hose	Use in industrial systems	Many different industrial of applications

NPF 2,000 - APF 40

Reference	Description
17 629 92	MC91 A with Cosmo mask, EPDM, filter P3 double threading 10 metres of hose in pressure-reducing regulator, supplied in a plastic box
17 629 95	MC91 A with Cosmo mask, silicone, filter P3 double threading 10 metres of hose in box, pressure-reducing regulator, supplied in a plastic box
17 629 98	MC91 Waistbelt and supply hose, supplied in a plastic box
17 629 20	MC 91A Waistbelt alone

MC95: Half and full-face equipment for extreme conditions

FEATURES	KEY POINTS	YOUR ADVANTAGES
EN139	Sturdy construction	Product for difficult working conditions
Traction in the tube	100 kg	Sturdy/Safe
Staubli RBE6 Connection	Other connections possible	On request
Pressure regulator 4 to 8 bars	Suitable for industrial network by taking its variations into account	Safety
Air flow adjustable up to 300 l/min	Via manual frontal tap	Worker adapts to the right flow according to effort required
Operates with Sperian half-face mask	Multipurpose product	Easy to use

NPF 2,000 - APF 40

Reference	Description
17 629 86	MC95 with half-face mask, EPDM, 10 metres of hose, supplied in a plastic box
17 630 43	with half-face mask, EPDM, 10 metres of hose, supplied in a plastic box, BAQ fittings
17 629 84	MC95 with Panoramasque, EPDM, 10 metres of hose, supplied in a plastic box
17 630 41	MC95 with Panoramasque, EPDM, 10 metres of hose, supplied in a plastic box, BAQ fittings
17 630 42	MC95 with COSMO, EPDM, 10 metres of hose, supplied in a plastic box, BAQ fittings
17 629 83	MC95 Regulator, hose, belt
17 619 00	Apparatus 211 with mask and valve, 10 metres of hose, supplied in a plastic box

See p.66

Filtering Station for intensive work

DE4: sturdy steel with optimised filtering - 4 outlet ports

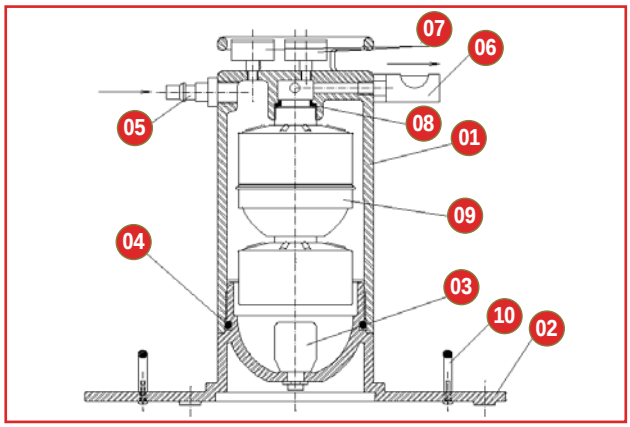
FEATURES	KEY POINTS	YOUR ADVANTAGES
Supply pressure 7 bars Maximum 10 bars	Possible use on all industrial networks	Easy connection to all networks
Filters against aerosols P3 eficient	Effective protection against particulates	Effective air quality: breathable - Safety
Carbon filtering	Active carbon	No odour
Filter efficiency 4 to 8 bars	Standard: 0.5mg/m3 DE4: 0.01mg/m3	Excellent filtering capacity
Staubli RBE11	Diameter 11mm for 4 outlet ports, 6mm	High flow rate
Level control of humidity delivered	Decreased humidity Low dew points (-5)	Low absolute humidity
4 Staubli RBE6 outlet ports	Can be equipped w/ CEJN	4 workstations
Metal: aluminium	Work in difficult conditions	Sturdy
2 control manometers	Differential measurement of filter resistance: indicator of filter change	Safety

Reference	Description
17 635 25	Sperian DE4 (4 outlet ports)
17 635 26	Sperian DE4 (4 outlet ports - BAQ "Breathable Air Quality")

Contact us for the reference with the special CEJN connection.

Spare Parts Diagram for DE4

Marking	Reference	Description
01	17 635 01	Body of DE4
02	17 635 02	Base of DE4
03	17 637 13	Automatic purge
04	17 635 03	O-ring joint
05	17 636 32	End piece RBE11
06	17 634 24	Connection RBE6 G3/8 male
06'	17 634 23	Connection BAQ G3/8 male
07	17 636 40	Manometer
08	17 052 07	Seal
09	17 635 04	Set of filters DE4 SPERIAN
10	17 635 60	Handle



Options and Accessories

Reference	Description
17 401 15	Ring collar 19-23 with one lug for hose 13 x 20
17 600 87	Hose 9 x 16, length 10m with RBE6 connection
17 636 35	REB311 connection for hose Ø 13, inner
17 640 01	Drum with 30m of hose 9x16 and RBE6 connection
17 640 02	Drum with 60m of hose 9 x 16 and RBE6 connection
17 641 19	Hose 13 x 20, length 20m with RBE11 connection
17 641 20	Hose 13 x 20, length 10m with RBE11 connection

Components needed for maintenance

Marking	Reference	Description
01	17 635 04	1 set of DE4 Sperian filters
02	17 995 69	1 tube of silicone lubricant

The DE4 filtering station is not an item of Personal Protective Equipment.

As soon as any odour of oil is perceived in the air being breathed or when the pressure difference downstream and upstream the filters is more than one bar, it is necessary to change the set of filters on the distributor-purifier. Calculate the pressure by subtracting the pressure reading on the "outlet port" manometer from the pressure reading on the "inlet" manometer. This reading must be carried out when the devices, connected to the DE4, are discharging. In all cases it is absolutely imperative to change of filters at least once a year even when the apparatus is only operated occasionally.

Fresh Air Breathing Apparatus

4BA: isolated from the ambient atmosphere

FEATURES	KEY POINTS	YOUR ADVANTAGES
The apparatus operates without external power	No need to connect to external motor nor to factory airline system	Autonomous work in confined areas
35mm hose	Reinforced Large diameter	Safe Easy breathing
Strainer	Fastened outside the working area	Safe
8m hose	Distance work	Easy to use
Air inlet with large particulate filters	Protection against large particulates (insects, dust)	Safe
Easy installation Comes in a protective case	Easy to use	Safe and easy to learn how to operate
To be used with Panoramasque Ref.: 17 103 95	Breathing comfort	Comfortable
Harness with hook	Hose well fastened for the wearer	Safe

- Air is taken from an uncontaminated area remote from the workplace.
- Exhalation valve is situated in the face mask.
- Spontaneous ventilation is possible as a result of the large hose diameter (35mm).

Reference	Description
4BA with PANORAMASQUE	
17 525 00	4BA with 8m hose, diameter 35mm supplied in a metal case
17 525 04	4BA with 10m hose, diameter 35mm supplied in a metal case
17 525 16	4BA with 20m hose, diameter 35mm supplied in a metal case

Options and Accessories

Reference	Description
17 540 09	Air terminal with screw-on connections for hosex Ø 35 (two 6V batteries)

The 4BA can be used with the following masks:

Reference	Description masks	4BA leather harness 17 525 70	4BA nylon harness 17 525 65
17 102 37	PANO EPDM kit F1	17 525 17	-
17 103 43	PANO EPDM speech diaphragm, kit F1	17 525 50	-
17 103 94	PANO EPDM	17 525 29	17 525 02
17 103 95	PANO EPDM speech diaphragm	17 525 10	17 525 00
17 105 01	COSMO Silicone	-	17 525 75
17 105 21	COSMO EPDM	17 525 51	17 522 78
17 109 87	PANO Silicone speech diaphragm	17 525 66	-

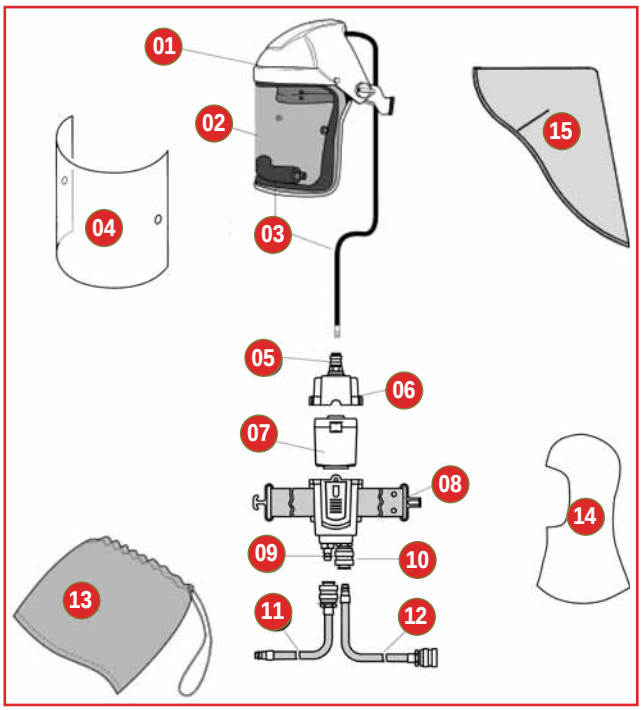
See p.67

Spare parts and accessories

Spare Parts Diagram – Airvisor Paint Spraying kit - Ref: 10 016 41 (p.56)

Reference	Description	Model
10 016 41	Complete Paint Spraying kit	DAVK-0001
10 016 48	Spare headpiece complete	DAVK-0051
10 016 55	Spare waistbelt complete	DAVW-1001

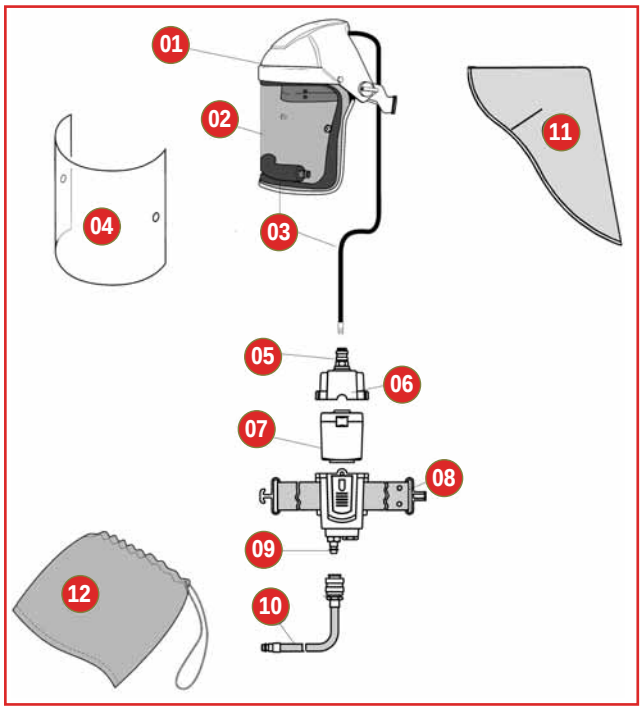
Marking	Reference	Description	Model
01	10 016 69	Replacement browguard	DAVS-1401
02	10 016 71	Acetate visor with foam seal	DAVS-1403
03	10 016 75	Air tube and diffuser	DAVS-1407
04	10 017 32	Visor covers (pack of 10)	DAF-9220/10
	10 017 31	Visor covers (pack of 50)	DAF-9220/50
05	10 017 25	Miniature quick release socket	DAF-6345
06	10 016 73	Replacement regulator	DAVS-1405
07	10 016 72	Replacement carbon filter	DAVS-1404
08	10 016 74	Replacement waistbelt housing	DAVS-1406
09	10 017 19	Standard quick release plug	DAF-6265
10	10 017 22	Standard quick release socket	DAF-6311
11		BLUELINE connection hose	not provided
12	10 016 83	1.2m spraygun hose	DAVS-1418
13	10 017 38	Storage bag	DAF-8083
14	10 017 33	Disposable fabric balaclava (pack of 5)	DAF-9257/5
15	10 016 76	Disposable head and neck cover (pack of 5)	DAVS-1408/5



Spare Parts Diagrams for Airvisor Chemical kit - Ref: 10 016 42 and for Airvisor Industrial kit - Ref: 10 016 43 (p.56)

Reference	Description	Model
10 016 42	Complete chemical kit	DAVK-0003
10 016 48	Spare headpiece complete	DAVK-0051
10 016 43	Complete Industrial kit	DAVK-0004
10 016 49	Spare headpiece complete	DAVK-0052
10 016 56	Spare waistbelt complete	DAVW-1003

Marking	Reference	Description	Model
01	10 016 69	Replacement browguard	DAVS-1401
02	10 016 71	Acetate visor with foam seal	DAVS-1403
02	10 016 70	Polycarbonate visor with foam seal	DAVS-1402
03	10 016 75	Air tube and diffuser	DAVS-1407
04	10 017 32	Visors covers (pack of 10)	DAF-9220/10
	10 017 31	Visors covers (pack of 50)	DAF-9220/50
05	10 017 25	Miniature quick release socket	DAF-6345
06	10 016 73	Replacement regulator	DAVS-1405
07	10 016 72	Replacement carbon filter	DAVS-1404
08	10 016 74	Replacement waistbelt housing	DAVS-1406
09	10 017 19	Standard quick release plug	DAF-6265
10		BLUELINE hose	not provided
11	10 016 76	Disposable head and neck cover (pack of 5)	DAVS-1408/5
12	10 017 38	Storage bag	DAF-8083

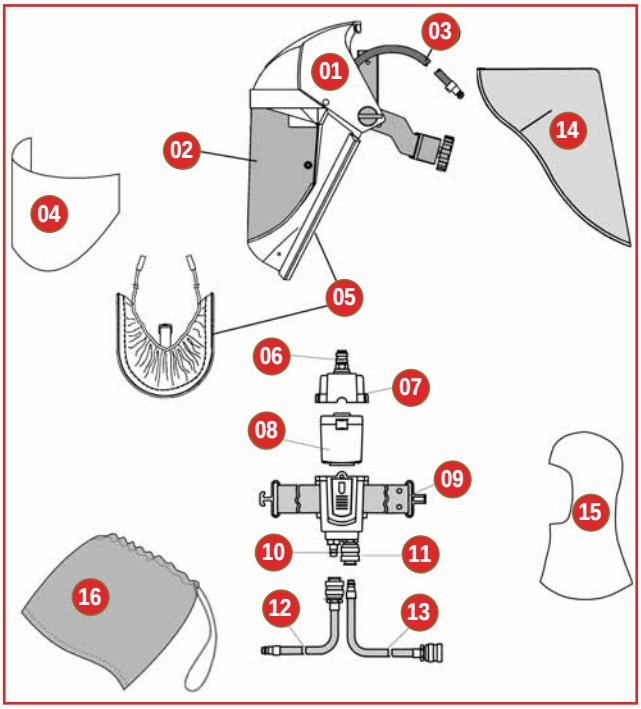


Spare parts and accessories

Spare Parts Diagrams - Airvisor MV Paint Spraying kit - Ref: 10 016 45 (p.57)

Reference	Description	Model
10 016 45	Complete Paint Spraying kit	DMAK-0021
10 016 53	Spare headpiece complete	DMAK-0071
10 016 55	Spare waistbelt complete	DAVW-1001

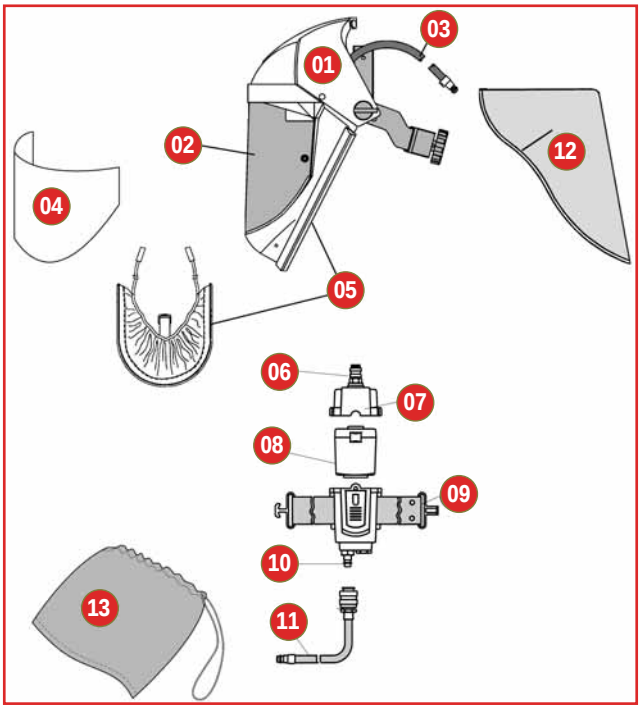
Marking	Reference	Description	Model
01	10 016 85	Replacement browguard	DMAS-1601
02	10 017 75	Acetate visor (pack of 5)	DTVS-1504/5
03	10 016 75	Air tube and diffuser	DAVS-1407
04	10 017 78	Visor covers (pack of 10)	DTVS-1507/10
	10 017 79	Visor covers (pack of 50)	DTVS-1508/50
05	10 017 81	Fabric cassette (pack of 5)	DTVS-1510/5
06	10 017 25	Miniature quick release socket	DAF-6345
07	10 016 73	Replacement regulator	DAVS-1405
08	10 016 72	Replacement carbon filter	DAVS-1404
09	10 016 74	Replacement waistbelt housing	DAVS-1406
10	10 017 19	Standard quick release plug	DAF-6265
11	10 017 22	High pressure connector	DAF-6311
12		BLUELINE hose	not provided
	10 016 83	1.2m spraygun hose	DAVS-1418
14	10 016 76	Disposable head and neck cover (pack of 5)	DAVS-1408/5
15	10 017 33	Disposable fabric balaclava(pack of 5)	DAF-9257/5
16	10 017 38	Storage bag	DAF-8083



Spare Parts Diagrams for Airvisor MV Chemical kit - Ref: 10 016 46 and for Airvisor MV Industrial kit - Ref: 10 016 47 (p.57)

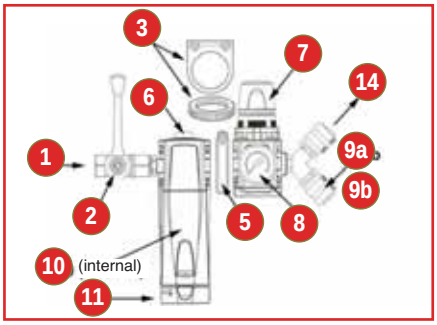
Reference	Description	Model
10 016 46	Complete chemical kit	DMAK-0023
10 016 53	Spare headpiece complete	DMAK-0071
10 016 47	Complete Industrial kit	DMAK-0024
10 016 54	Spare headpiece complete	DMAK-0072
10 016 56	Spare waistbelt complete	DAVW-1003

Marking	Reference	Description	Model
01	10 016 85	Replacement browguard	DMAS-1601
02	10 017 74	Polycarbonate visor (pack of 5)	DTVS-1503/5
02	10 017 75	Acetate visor (pack of 5)	DTVS-1504/5
03	10 016 75	Air tube and diffuser	DAVS-1407
04	10 017 78	Visor covers (pack of 10)	DTVS-1507/10
	10 017 79	Visor covers (pack of 50)	DTVS-1508/50
05	10 017 81	Fabric cassette (pack of 5)	DTVS-1510/5
06	10 017 25	Miniature quick release socket	DAF-6345
07	10 016 73	Replacement regulator	DAVS-1405
08	10 016 72	Replacement carbon filter	DAVS-1404
09	10 016 74	Replacement waistbelt housing	DAVS-1406
10	10 017 19	Standard quick release plug	DAF-6265
11		BLUELINE hose	not provided
12	10 016 76	Disposable head and neck covers (pack of 5)	DAVS-1408/5
13	10 017 38	Storage bag	DAF-8083

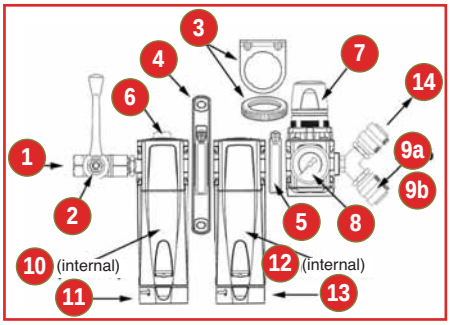


Spare parts and accessories

Spare Parts Diagrams for Clearflow 2, wall mounted models (p.59)

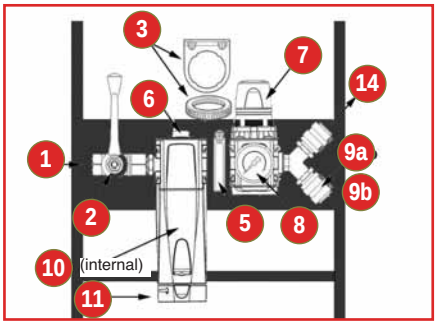


REF.: 10 169 60 / 10 169 64 / 17 633 40
WALL MOUNTED
Model: DCF-2151/T - DCF-2156/T

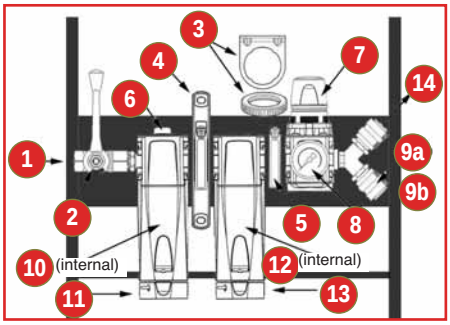


REF.: 10 169 62 / 10 169 66 / 17 633 38
WALL MOUNTED
Model: DCF-2152/T - DCF-2158/T

Spare Parts Diagrams for Clearflow 2, stand mounted models (p.59)



REF.: 10 169 61 / 10 169 65 / 17 633 39
STAND MOUNTED
Model: DCF-2154/T - DCF-2157/T

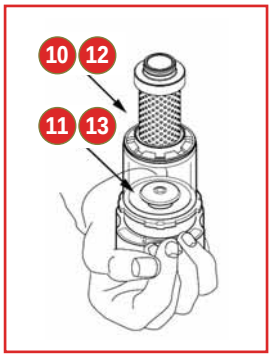


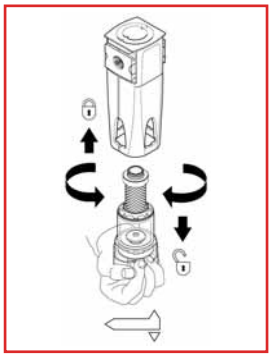
REF.: 10 169 63 / 10 169 67 / 17 633 37
STAND MOUNTED
Model: DCF-2155/T - DCF-2159/T

Marking	Reference	Description	Model
1	N/A	Compressed air feed from factory airline system	
2	17 633 32	Isolating valve	DCFS-2184
3	10 169 76	Wall mounting bracket & ring (for regulator)	DCFS-2168
4	10 169 75	Wall mounting bracket (for filter bodies)	DCFS-2167
5	10 169 77	Body connecting clip	DCFS-2169
6	10 169 78	Differential Pressure Indicator (available as a service/repair kit)	DCFS-2170
7	10 169 70	Regulator (complete, but without gauge, supplied with outlet adaptor)	DCFS-2162
8	10 017 07	Pressure gauge	DCFS-0185
9a	10 017 22	Quick release outlet socket (for use with Airvisor)	DAF-6311
9b	17 633 36	Quick release outlet socket (for use with MC systems)*	
N/A	10 169 68	Replacement coalescing filter stage (complete)	DCFS-2160
10	10 169 71	Coalescing filter element (internal)	DCFS-2163
11	10 169 72	Coalescing filter holder (c/w semi-auto drain)	DCFS-2164
N/A	10 169 69	Replacement adsorber filter stage (complete)	DCFS-2161
12	10 169 73	Adsorber filter element (internal)	DCFS-2165
13	10 169 74	Adsorber filter holder (c/w manual drain)	DCFS-2166
14	N/A	Outlet to respirator supply hose	
N/A	10 169 79	Tamper-proof kit for regulator (for use with a padlock)	DCFS-2171
N/A	10 170 50	Replacement stand (complete with fixing bolts)	DCFS-2172
N/A	10 050 60	Doubling kit for use with Airvisor ('Y' piece + one QR connector)	DAF-6329

* Quick Release Connectors for use with MC systems are purchased as extra items, according to the specific needs of the user.

Please refer to local/national price lists for details.



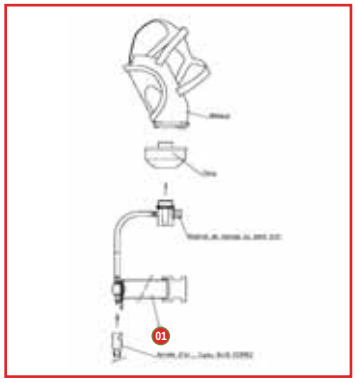


Spare parts and accessories

Spare Parts Diagrams MC91A (p.60)

Reference	Approved products
17 629 20	MC91A without a mask or filter

Marking	Reference	Description
01	17 629 53	Waistbelt



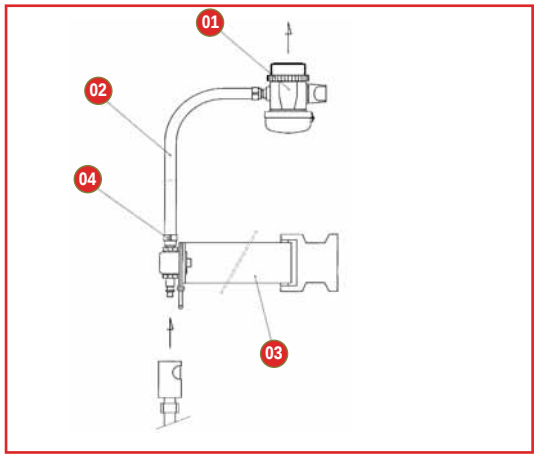
Options and Accessories

Reference	Description
17 103 94	Full-face mask, PANO style with two exhalation valves
17 103 95	Full-face mask, PANO style with speech diaphragm
17 105 01	Full-face mask, COSMO style, silicone, yellow
17 105 21	Full-face mask, COSMO style, EPDM
17 600 87	Hose 9 x 16, length 10m with RBE6 connection
17 600 00	DE2: Distributor - Purifier with 2 outlet ports, RBE6
17 640 01	Drum with 30m of hose with RBE6 connection
17 640 02	Drum with 60m of hose with RBE6 connection

Reference	Description
17 736 00	Replacement plastic storage box
17 779 21	Pressure-reducing regulator, inlet: end piece RBE6 and outlet port: RBE6 connection
17 790 59	ACTISEPT 25, 1-litre can
17 861 10	P3 filter, double threading, for MC91A equipment
17 865 00	P3 nuclear filter, double threading, for MC91A equipment

Spare Parts Diagrams MC95 (p.60)

Marking	Reference	Description
01	17 629 87	MC95 without hose
02	17 103 21	Hose MP length 1000 with microphone connection
03	17 990 44	Waistbelt
03	17 520 10	Harness
04	15 531 51	Collar 11-13 with fixing ring



Options and Accessories

Reference	Description
17 103 94	Full-face mask, type: PANO with 2 valve block assemblies
17 103 95	Full-face mask, type: PANO, speech diaphragm
17 105 21	Full-face mask, type: COSMO, EPDM
17 265 92	Half-face mask with RD40 connection x 1/7"
17 600 87	Hose 9 x 16, length 10m, with RBE6 connection
17 629 83	MC95 equipment on waistbelt without mask and supply hose
17 635 25	DE4: Distributor-purifier with 4 outlet ports, RBE6

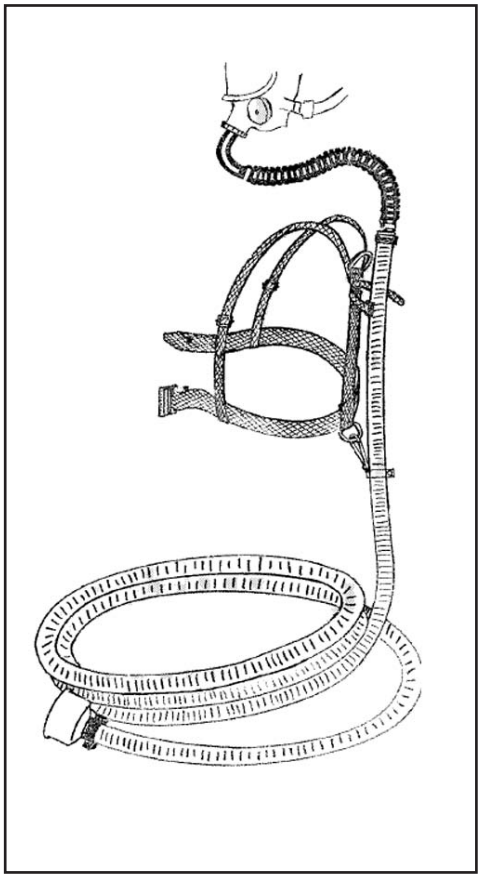
Reference	Description
17 640 01	Drum with 30m of hose with RBE6 connection
17 640 02	Drum with 60m of hose with RBE6 connection
17 736 00	Replacement plastic storage box
17 779 21	Pressure-reducing regulator, inlet: end piece RBE6 and outlet port: RBE6 connection
17 790 59	ACTISEPT 25, 1-litre can

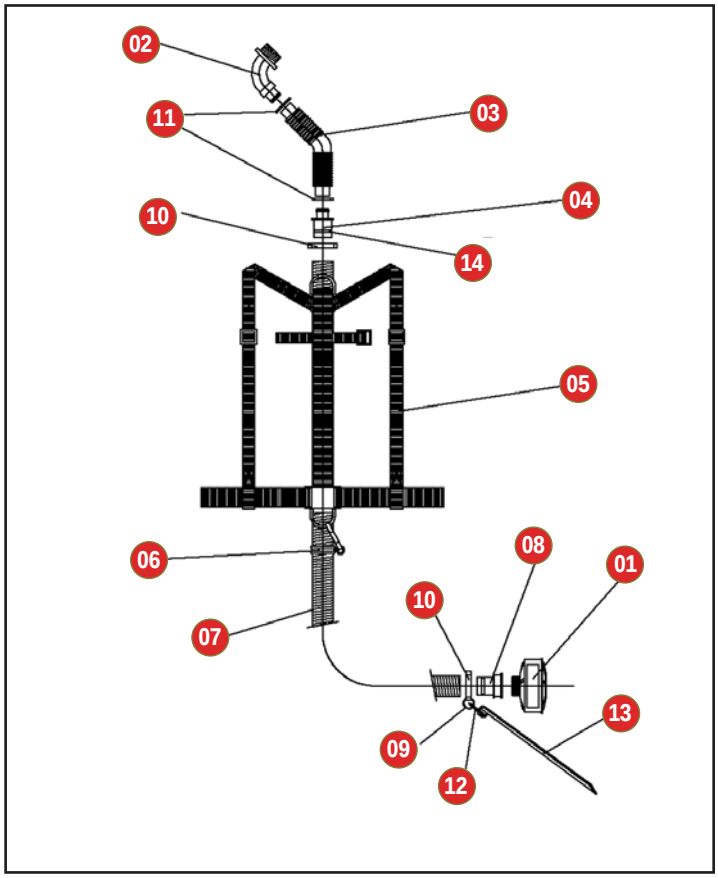
Apparatus Maintenance Schedule

OPERATION	SYSTEM IN SERVICE	SYSTEM STORED
Visual inspection for deterioration	Before each use	Every other year
Cleaning, decontamination, disinfection	After each use	NA
Replacement of the waistbelt	As soon as damage is observed	NA

Spare parts and accessories

Spare Parts Diagram for 4BA (p.62)





Reference	Approved products
17 525 51	4BA 8M leather harness, COSMO, supplied in a metal case
17 525 02	4BA 8M nylon harness, PANO, supplied in a metal case
17 735 10	Replacement metal box for 4BA

Marking	Reference	Description
01	17 512 23	Strainer cartridge
02	17 401 05	Plastic elbow
03	17 555 09	Corrugated tube length 500mm (for 4BA leather harness)
03	17 400 20	Corrugated tube length 800mm (for 4BA nylon harness)
04	17 510 91	Connection 22-36
05	17 520 12	Leather harness
05	17 520 10	Nylon harness
06	17 511 85	Collar 43-46 with quick release buckle
07	17 510 11	Hose ø35 length 8 metres
08	17 512 53	RD40 connection female - ø36 male
09	17 640 85	Open ring ø20
10	17 510 20	Collar 43-46 with 2 lugs
11	17 400 10	Collar 28-31 with 2 lugs
12	17 726 10	Open d-ring 28
13	17 510 60	Anchorage peg
14	17 014 51	O-ring seal R21

Respiratory Protection Guide

Respiratory

It is important to remember that the choice of use of a filtering product should be made in accordance with recognized international standards and local safety legislation.

Knowing all about your toxic substances

Chemical formulas are truly complex. A given formula may have several names. The only reliable reference is the CAS number.
CAS: Ask your supplier for the CAS number that corresponds to the toxic substance concerned.
Obtain an international material safety data sheet, which will enable you to verify any related potential hazards as well as different interactions which are to be avoided.

You will find several concentration values on this data sheet:

- WEL (OEL): Analogous to Occupational Exposure Limit (OEL) for 8 hours, in ppm (parts per million) or in mg/m3 (concentration)
- WEL (OEL): Analogous to Occupational Exposure Limit (OEL) Short term for 15 minutes
- IDLH: Concentration with exposure giving rise to an immediate fatal hazard (Immediately Dangerous to Life or Health concentration values)

The international material safety data sheet will also inform you about:

- The product's chemical form (gas, vapour, dust according to the temperature, humidity)
- The self-warning properties (odour, colour)
- Related hazards (to the eyes, to the skin, is the product carcinogenic?, explosive?)

In the UK a table of Workplace Exposure Limits (WELs) is published, the values shown therein should be used in the selection process.

Knowing the toxic concentration in the workplace:

- In ppm or mg/m3, 150 ppm, for example.

Choosing the right protection: APR, PAPR, SAR or SCBA?

It is necessary to calculate the minimum required protection factor when selecting the correct respirator, example:
Hypothesis: the WEL (OEL) of the toxic substance's is equal to 10 ppm, and the contaminant's concentration is 150 ppm.

$$\frac{\text{The contaminant's measured concentration}}{\text{WEL (OEL - 8 hours)}} = 15.$$

This is the minimum required protection factor.

What to do next?
Select a respirator with an Assigned Protection Factor higher than your calculated minimum value. Ensure that its specification is suitable for the contaminant in question, so that it is sure to provide adequate protection.
Make sure that your selection is suitable for each employee, taking into account their medical fitness etc., and that it is suitable for use in the workplace. Ensure that the respiratory system does not interfere with your employees' vision, nor does it restrict their freedom of movement etc. Your selection should also be compatible with other necessary items of PPE and should be capable of being used without reducing the protection offered by those other devices.
Make sure that your selection works properly on the face of each individual employee, if it does not then make sure to offer an alternative style or size. Please remember that Fit Testing is now mandatory in the UK (although certain types of powered and supplied air devices are exempted).
Be sure to provide training on the use and maintenance of any respirator that you ask your employees to use.
The more dangerous the toxic substance is, the more the choice must be carefully made and validated.
Once again, be sure of the following before using an air purifying respirator:

- That you have validated the minimum oxygen concentration
- That you are aware of the self-warning properties

When there are risks to the eyes and skin:

Information can be found within material safety data sheets and is also published alongside Workplace Exposure Limits (WELs) in the form of R (Risk) Phrases. For example R27 - Very toxic in contact with skin.

When in contact with gas or vapours

- A full-face mask is compulsory.

When in contact with a liquid or where there is a risk of liquid splash

- A half-face mask combined with a pair of safety goggles suitable for the toxic substance is recommended.

When in doubt, choose a full-face mask.
A risk to the eyes is a major functional risk. We must not forget that it is very difficult to escape from a hazardous situation without being able to see.

Respiratory Protection Guide

The following list of chemicals will help you to make a selection. It has been prepared as follows:

Unit of measurement

2 units of measurement are used: ppm or mg/m3. The ppm (number of parts per million) is the most frequently used value. However, we offer you a conversion table for 1 ppm in mg/m3 in the last column.

Type of protection

This recommendation takes the needs of PF into account as well as any requirements related to physical protection (eyes, skin).

- Half-faced mask or full-faced mask
- Full-faced mask
- ARI or supplied air

CAS number

This will enable you to be precise and avoid any error.

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m3
Acetal	CH3COOC6H4COOH	50-78-2	Solid	mg/m3	5.00	Half-face or Full-face		P2/P3	
Acetaldehyde	CH3CHO	75-07-0	Liquid	ppm	100,00	Full-face	AX		1,8
Acetylene	C2H2	74-86-2	Gas	ppm	2500,000	ARI or Supplied Air			1,06

Chemical formula

In this case, only the constant element is used to find a chemical. For easier identification, we have shown the semi-developed formula.

Normal state

This is the state of the product at its usual ambient temperature. This indication is important in choosing protection against a particles or an associated gas.

OEL

This corresponds to the Occupational Exposure Limit (OEL) for 8 hours.

Gas filter

This corresponds to the recommended gas filter.

Particulate filter

Recommended level of particulate filtration

- **Example:**

2-methylnitrobenzene	NO2C6H4CH3	88-72-2	Liquid	ppm	2,00	Full-face	A	P3	5,61

We can see that 2-methylnitrobenzene has the chemical formula of NO2C6H4CH3, with a CAS number of 88-72-2.
It is in liquid form. There is a possible hazard from vapours and aerosols.
The WEL (OEL) is indicated in ppm, representing 2.0 ppm, hence 2 x 5.61 mg/m3, i.e. 11.22mg/m3.

The recommended protection is a full mask fitted with an AP3 combination filter.
Where the level of contamination in the workplace is measured at 200 mg/m3 your respiratory protection must have an Assigned Protection Factor of at least 200/11.22 = 17.8.

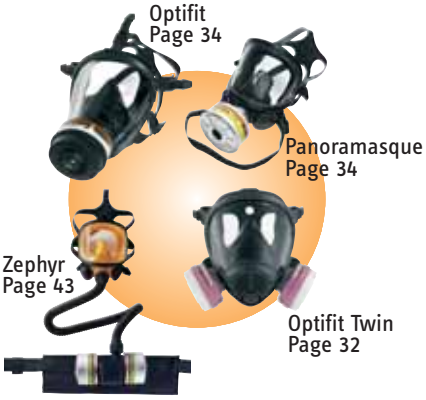
In these circumstances a full face mask fitted with an AP3 combination filter is a valid selection as it has an Assigned Protection Factor of 20.

Information for users about how to use this list
The information shown below reflects our current knowledge. OELs and safety recommendations vary from country to country according to local legislation.
In the UK a table of Workplace Exposure Limits (WELs) is published and the values shown therein should be given precedence when making a calculation for selection.
In the same way Assigned Protection Factors are published and should be used to assess the suitability of a respiratory protective device.
This guide is offered only as a proposal and does not bind Sperian Protection' responsibility.

Respiratory Protection Guide

Filtering with a half-face mask (p.29)

Filtering with a full-face mask (p.32 and 43)



Self contained breathing apparatus (SCBA)

See Sperian Respiratory Protection France catalogue

Fresh air and compressed airline systems(SAR) (p.56)

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
A									
Acetal	CH3COOC6H4COOH	50-78-2	Solid	mg/m3	5.00	Half or Fullface mask		P2/P3	
Acetaldehyde	CH3CHO	75-07-0	Liquid	ppm	100	Fullface mask	AX		1,8
Acetic acid	CH3COOH	64-19-7	Liquid	ppm	10.00	Fullface mask	A	P3	2,46
Acetic aldehyde	CH3CHO	75-07-0	Liquid	ppm	100	Fullface mask	AX		1,8
Acetic ester	CH3COOC2H5	141-78-6	Liquid	ppm	400.00	Fullface mask	A		3,6
Acetic ether	CH3COOC2H5	141-78-6	Liquid	ppm	400.00	Fullface mask	A		3,6
Acetic oxide	(CH3CO)2O	108-24-7	Liquid	ppm	5.00	Fullface mask	A		4,18
Acetone	(CH3)2CO	67-64-1	Liquid	ppm	500	Fullface mask	AX		2,38
2-Acetoxybenzoic acid	CH3COOC6H4COOH	50-78-2	Solid	mg/m3	5.00	Half or Fullface mask		P2/P3	
1-Acetoxyethylene	CH2=CHOOCCH3	108-05-4	Liquid	ppm	OEL =4	Fullface mask	A		3,52
Acetylene	C2H2	74-86-2	Gas	ppm	2500	SCBA or Supplied-Air			1,06
Acetylene black	C	1333-86-4	Solid	mg/m3	3,5	Fullface mask		P3	
Acetylene tetrabromide	CHBr2CHBr2	79-27-6	Liquid	ppm	0.50	Fullface mask	A	P3	14,14
Acraldehyde	CH2=CHCHO	107-02-8	Liquid	ppm	0.10	Fullface mask	AX 450		2,29
Acrylamide	CH2=CHCONH2	79-06-1	Solid	mg/m3	0,3	Fullface mask	A	P3	
Acrylamide monomer	CH2=CHCONH2	79-06-1	Solid	mg/m3	0,3	Fullface mask	A	P3	
Acrylonitrile	CH2=CHCN	107-13-1	Liquid	ppm	2	Fullface mask	A	P3	4,34
Acrylonitrile monomer	CH2=CHCN	107-13-1	Liquid	ppm	2	Fullface mask	A	P3	4,34
Actinolite, Actinolite asbestos	Hydrated mineral silicates	1332-21-4	Fibre	fibres/ml	MEL	Fullface mask		P3	
Age	C6H10O2	106-92-3	Liquid	ppm	5.00	Fullface mask	A		4,67
Alcohol	CH3CH2OH	64-17-5	Liquid	ppm	1000.00	Fullface mask	A		1,89
Aldrin (iso)	C12H8Cl6	309-00-2	Solid	mg/m3	0.25	Half or Fullface mask	AB	P3	
1-Allyloxy-2,3-epoxypropane	C6H10O2	106-92-3	Liquid	ppm	5.00	Fullface mask	A		4,67
3-(Alpha-Acetonyl)-benzyl-4-hydroxycoumarin	C19H16O4	81-81-2	Solid	mg/m3	0.10	Half or Fullface mask		P2/P3	
Alpha-aminopyridine	NH2C5H4N	504-29-0	Solid	mg/m3	2.00	Half or Fullface mask	A	P3	
Alpha-chloroacetophenone	C6H5COCH2Cl	532-27-4	Solid	ppm	0,3	Fullface mask	ABEK	P3	6,32
Alpha-chlorotoluene	C6H5CH2Cl	100-44-7	Liquid	ppm	1.00	Fullface mask	A		5,18
Alpha-methylacrylonitrile	CH2=C(CH3)CN	126-98-7	Liquid	ppm	1.00	Fullface mask	AB 450	P3	2,74
Alpha-Naphthyl N-methyl-carbamate	CH3NHCOOC10H7	63-25-2	Solid	mg/m3	5	Half or Fullface mask	A		
Alpha-starch	(C6H10O5)n	9005-25-8	Solid	mg/m3	5	Fullface mask		P3	
Alumina	Al2O3	1344-28-1	Solid	mg/m3	4.00	Half or Fullface mask		P3	
Aluminium metal (respirable dust)	Al	7429-90-5	Solid	mg/m3	5	Half or Fullface mask		P2/P3	
Aluminium oxide (respirable dust)	Al2O3	1344-28-1	Solid	mg/m3	4.00	Half or Fullface mask		P3	
Aluminum trioxide	Al2O3	1344-28-1	Solid	mg/m3	4.00	Half or Fullface mask		P3	
Amidocyanogen	NH2CN	420-04-2	Solid	mg/m3	2	Half or Fullface mask		P3	
Aminobenzene	C6H5NH2	62-53-3	Liquid	ppm	2	Fullface mask	A	P3	3,81
1-Aminobutane	CH3CH2CH2CH2NH2	109-73-9	Liquid	ppm	5	Fullface mask	BK		2,99

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H20 = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Aminocyclohexane	C6H11NH2	108-91-8	Liquid	ppm	10	Half or Fullface mask	A		4,06
Aminodimethylbenzene	CH3)2C6H3NH2	1300-73-8	Liquid	ppm	2.00	Half or Fullface mask	A		4,96
Aminoethane	CH3CH2NH2	75-04-7	Liquid	ppm	10	Fullface mask	K		1,85
2-Aminoethanol	NH2CH2CH2OH	141-43-5	Liquid	ppm	3.00	Fullface mask	A		2,66
Aminoethylene	C2H5N	151-56-4	Liquid	ppm		Fullface mask	K 450		1,76
Aminomethane	CH3NH2	74-89-5	Gas	ppm	10.00	Fullface mask	K		1,27
2-Aminopyridine	NH2C5H4N	504-29-0	Solid	mg/m3	2.00	Half or Fullface mask	A	P3	
2-Aminotoluene	CH3C6H4NH2	95-53-4	Liquid	ppm	2	Fullface mask	A	P3	4,38
4-Amino-3,5,6-trichloro-2-picolinic acid	C6H3Cl3O2N2	1/02/18	Solid	mg/m3	5	Fullface mask	AB	P3	
4-Amino-3,5,6-trichloropicolinic acid	C6H3Cl3O2N2	1/02/18	Solid	mg/m3	5	Fullface mask	AB	P3	
Ammate herbicide	NH4OSO2NH2	7773-06-0	Solid	mg/m3	5	Fullface mask		P3	
Ammonia	NH3	7664-41-7	Liquid	ppm	25.00	Fullface mask	K		0,7
Ammonium amidosulfonate	NH4OSO2NH2	7773-06-0	Solid	mg/m3	5	Fullface mask		P3	
Ammonium chloride	NH4Cl	12125-02-9	Solid	mg/m3	10.00	Fullface mask	K	P	
Ammonium chloride, fume	NH4Cl	12125-02-9	Solid	mg/m3	10.00	Fullface mask	K	P	
Ammonium muriate fume	NH4Cl	12125-02-9	Solid	mg/m3	10.00	Fullface mask	K	P	
Ammonium sulfamate	NH4OSO2NH2	7773-06-0	Solid	mg/m3	5	Fullface mask		P3	
Amosite (cummingtonite-grunerite)	Hydrated mineral silicates	1332-21-4	Fibre	fibres/ml	MEL	Fullface mask		P3	
Amyl acetic ester	CH3COO[CH2]4CH3	628-63-7	Liquid	ppm	100	Fullface mask	A		5,33
Amyl acetic ether	CH3COO[CH2]4CH3	628-63-7	Liquid	ppm	100	Fullface mask	A		5,33
Amyl methyl ketone	CH3CO[CH2]4CH3	110-43-0	Liquid	ppm	100.00	Fullface mask	A		4,67
An	CH2=CHCN	107-13-1	Liquid	ppm	2	Fullface mask	A	P3	4,34
Anhydrous borax	Na2B4O7	1330-43-4	Solid	mg/m3	1	Half or Fullface mask		P3	
Anhydrous hydrogen bromide;	H Br	10035-10-6	Gas	ppm	3.00	Fullface mask	B	P3	3,31
2-Anisidine	NH2C6H4OCH3	90-04-0	Liquid	mg/m3	0.5	Fullface mask	A	P3	
Anisidines, o- and p- isomers	NH2C6H4OCH3	90-04-0	Liquid	mg/m3	0.5	Fullface mask	A	P3	
Anol	C6H11OH	108-93-0	Liquid	ppm	50	Fullface mask	A		4,1
Anone	C6H10O	108-94-1	Liquid	ppm	25	Half or Fullface mask	A		4,02
Anthophyllite, Anthophyllite asbestos	Hydrated mineral silicates	1332-21-4	Fibre	fibres/ml	MEL	Fullface mask		P3	
Antimony and compounds (as sb)	Sb	7440-36-0	Solid	mg/m3	MEL	Fullface mask		P3	
Antimony hydride	SbH3	7803-52-3	Gas	ppm	0.10	SCBA or Supplied-Air			5,1
Antimony trihydride	SbH3	7803-52-3	Gas	ppm	0.10	SCBA or Supplied-Air			5,1
Antimony trioxide	O3 Sb2	1309-64-4	Solid	mg/m3	0,5	Half or Fullface mask		P3	
Aprocarb®	CH3NHCOOC6H4OCH(CH3)2	114-26-1	Solid	mg/m3	0.50	Fullface mask		P3	
Aqueous hydrogen bromide (i.e., Hydrobromic acid)	H Br	10035-10-6	Gas	ppm	3.00	Fullface mask	B	P3	3,31
Argon	Ar	7440-37-1	Gas	ppm		SCBA or Supplied-Air			
Aroclor® 1254	C6H3Cl2C6H2Cl3	11097-69-1	Liquid	mg/m3	0,1	Fullface mask	AB	P3	
Arsenic & compounds except arsine	As	7440-38-2	Solid	mg/m3	0,15	Fullface mask		P3	
Arsenic hydride	AsH3	7784-42-1	Liquid	ppm	0,02	SCBA or Supplied-Air			3,19
Arsenic sesquioxide	As2O3	1327-53-3	Solid	mg/m3	MEL	SCBA or Supplied-Air			
Arsenic trihydride	AsH3	7784-42-1	Liquid	ppm	0,02	SCBA or Supplied-Air			3,19
Arsenic trioxide	As2O3	1327-53-3	Solid	mg/m3	0,2	SCBA or Supplied-Air			
Artificial barite	BaSO4	7727-43-7	Solid	mg/m3	0,5	Fullface mask		P3	
ASBESTOS, amiante	Hydrated mineral silicates	1332-21-4	Fibre	fibres/ml	MEL	Fullface mask	PAPR	P3	
Asphalt, petroleum fumes	n/ a	8052-42-4	Solid	mg/m3	5.00	SCBA or Supplied-Air			
Aspirin	CH3COOC6H4COOH	50-78-2	Solid	mg/m3	5.00	Half or Fullface mask		P2/P3	
Asymmetrical dichloroethane	CHCl2CH3	75-34-3	Liquid	ppm	100	Fullface mask	AX		4,05
Atcp	C6H3Cl3O2N2	1/02/18	Solid	mg/m3	5	Fullface mask	AB	P3	
Atrazine (iso)	C8H14ClN5	1912-24-9	Solid	mg/m3	5	Half or Fullface mask		P3	
Aurum paradoxum	Te	13494-80-9	Solid	mg/m3	0.10	Half or Fullface mask		P2/P3	
Azabenzene	C5H5N	110-86-1	Liquid	ppm	5.00	Fullface mask	A	P3	3,24
@Azacyclohexane	CH2(CH2)4NH	110-89-4	Liquid	ppm	?	Half or Fullface mask	A		
Azide	NaN3	26628-22-8	Solid	mg/m3	0.3	Half or Fullface mask		P3	
Azimethylene	CH2N2	334-88-3	Gas	ppm	0,2	Fullface mask	ABEK	P3	3,72
Azinphos- methyl (iso)	C10H12O3PS2N3	86-50-0	Solid	mg/m3	0.20	Half or Fullface mask	A	P3	
Azirane	C2H5N	151-56-4	Liquid	ppm		Fullface mask	K 450		1,76
Aziridine	C2H5N	151-56-4	Liquid	ppm		Fullface mask	K 450		1,76
Azium	NaN3	26628-22-8	Solid	mg/m3	0.3	Half or Fullface mask		P3	
Azodicarbonamide	C2H4N4O2/NH2CON=NCONH2	123-77-3	Solid	mg/m3	MEL	Fullface mask	A	P3	
Azomethylene	CH2N2	334-88-3	Gas	ppm	0,2	Fullface mask	ABEK	P3	3,72
Azophos®	(CH3O)2P(S)OC6H4NO2	298-00-0	Solid	mg/m3	0.20	Fullface mask	A2	P3	

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H2O = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
B									
B- chloroprene	CH2=CClCH=CH2	126-99-8	Liquid	ppm	VLE = 1	Fullface mask	AX	P3	3,62
Barite, Barium salt of sulfuric acid	BaSO4	7727-43-7	Solid	mg/m3	0,5	Fullface mask		P3	
Barium compounds soluble (as ba)	Ba	7440-39-3	Solid	mg/m3	0.50	Half or Fullface mask		P2/P3	
Barium sulphate, respirable dust	BaSO4	7727-43-7	Solid	mg/m3	0,5	Fullface mask		P3	
Basudin®	C12H21N2O3PS	333-41-5	Liquid	mg/m3	0,1	Fullface mask	BE	P3	
Benomyl (iso)	C14H18N4O3	17804-35-2	Solid	mg/m3	5	Half or Fullface mask	A	P3	
Benzenamine	C6H5NH2	62-53-3	Liquid	ppm	2	Fullface mask	A	P3	3,81
Benzene	C6H6	71-43-2	Liquid	ppm	1	Fullface mask	A 450		3,25
Benzene chloride	C6H5Cl	108-90-7	Liquid	ppm	75	Half or Fullface mask	A		4,61
Benzene hexahydride	C6 H12	110-82-7	Liquid	ppm	300	Half or Fullface mask	A		3,44
Benzene tetrahydride	C6 H10	110-83-8	Liquid	ppm	300	Half or Fullface mask	A		3,36
1,4-benzenediamine	C6H4(NH2)2	106-50-3	Solid	mg/m3	0.10	Fullface mask	A	P3	
1,2-Benzenedicarboxylic anhydride	C6H4(CO)2O	85-44-9	Solid	ppm	1	Fullface mask		P3	6,06
1,2-benzenediol	C6H4(OH)2	120-80-9	Solid	mg/m3	5.00	Fullface mask	A	P3	4,5
1,3-Benzenediol	C6H4(OH)2	108-46-3	Solid	ppm	10.00	Fullface mask	A	P3	4,5
1,4-benzenediol	C6H4(OH)2	123-31-9	Solid	mg/m3	2.00	Fullface mask	A	P3	
Benzenethiol	C6H5SH	108-98-5	Liquid	ppm	0.1	Fullface mask	A		4,51
1,2,4-Benzenetricarboxylic anhydride	C9H4O5	552-30-7	Solid	mg/m3	0,04	Fullface mask	A	P3	7,8
Benzoepin	C9H6Cl6O3S	115-29-7	Solid	mg/m3	0,1	Fullface mask	A	P3	
Benzol	C6H6	71-43-2	Liquid	ppm	1	Fullface mask	A 450		3,25
Benzoyl peroxide	(C6H5CO)2O2	94-36-0	Solid	mg/m3	5	Half or Fullface mask	A	P3	
Benzyl butyl phthalate	C19 H20 O4	85-68-7	Liquid	mg/m3	5	Half or Fullface mask	A	P	
Beryllium and compounds	Be	7440-41-7	Solid	mg/m3	VLE	Fullface mask		P3	
Beta-Aminoethyl alcohol	NH2CH2CH2OH	141-43-5	Liquid	ppm	3.00	Fullface mask	A		2,66
Beta-Hydroxypropyl acrylate	CH2=CHCOOCH2CHOHCH3	999-61-1	Liquid	ppm	0.50	Fullface mask	A		5,33
Beta-nitronaphthalene	C10H7NO2	581-89-5	Solid			Half or Fullface mask	A	P	
Bge	C7 H14 O2	6/08/26	Liquid	ppm	5,6	Fullface mask	A		5,33
Biethylene	CH2=CHCH=CH2	106-99-0	Liquid	ppm	VLE= 1	Fullface mask	AX		2,21
Biotite	H2KAl3(SiO4)3	12001-26-2	Solid	mg/m3	3	Half or Fullface mask		P3	
Biphenyl	C6H5C6H5	92-52-4	Solid	ppm	0,2	Fullface mask	A	P3	6,31
Bipotassium chromate	K2 Cr O4	7789-00-6	Solid	mg/m3		SCBA or Supplied-Air			
2,2 - Bis (p - Chlorophenyl) 1,1,1- Trichloroethane	(C6H4OCH3)2CHCCl3	72-43-5	Solid	mg/m3	15	Half or Fullface mask	A	P3	
Bis(Dimethylthiocarbamoyl) disulfide	C6H12N2S4	137-26-8	Solid	mg/m3	5.00	Fullface mask	A	P	
Bis(2- ethylhexyl) phthalate	C24H38O4	117-81-7	Liquid	mg/m3	5	Half or Fullface mask	A	P3	
Bis(2,3- epoxypropyl) ether	C6H10O3	5/07/38	Liquid	ppm	0,1	Fullface mask	A	P3	5,33
2,2-bis(Hydroxymethyl)-1,3-propanediol	C(CH2OH)4	115-77-5	Solid	mg/m3	5.00	Fullface mask	A	P3	
Bismuth sesquitelluride	Bi2Te3	1304-82-1	Solid	mg/m3	5	Fullface mask		P3	
Bismuth telluride	Bi2Te3	1304-82-1	Solid	mg/m3	5	Fullface mask		P3	
Bivinyl	CH2=CHCH=CH2	106-99-0	Liquid	ppm	VLE= 1	Fullface mask	AX		2,21
Bladafum®	[(CH3CH2O)2PS]2O	3689-24-5	Liquid	mg/m3	0.20	Fullface mask	ABE	P3	13,18
Borates, (tetra) sodium salts	Na2B4O7	1330-43-4	Solid	mg/m3	1	Half or Fullface mask		P3	
Borax	Na2B4O7 • 10H2O	1303-96-4	Solid	mg/m3	5	Fullface mask		P3	
Borax decahydrate	Na2B4O7 • 10H2O	1303-96-4	Solid	mg/m3	5	Fullface mask		P3	
Borax dehydrated	Na2B4O7	1330-43-4	Solid	mg/m3	1	Half or Fullface mask		P3	
Boric anhydride	B2O3	1303-86-2	Solid	mg/m3	10	Half or Fullface mask		P3	
Bornan- 2- one	C10H16O	76-22-2	Solid	mg/m3	2	Half or Fullface mask	A	P3	
Boroethane	B2H6	19287-45-7	Gas	ppm	0,1	Fullface mask	B	P3	1,13
Boron fluoride	BF3	7637 07 02	Gas	ppm	1	SCBA or Supplied-Air			2,77
Boron hydride	B2H6	19287-45-7	Gas	ppm	0,1	Fullface mask	B	P3	1,13
Boron oxide	B2O3	1303-86-2	Solid	mg/m3	10	Half or Fullface mask		P3	
Boron trifluoride	BF3	7637 07 02	Gas	ppm	1	SCBA or Supplied-Air			2,77
Bromacil (iso)	C9H13BrN2O2	314-40-9	Solid	ppm	1	Fullface mask	AB	P3	10,68
Bromine	Br2	7726-95-6	Liquid	ppm	0,1	Fullface mask	B	P3	6,54
Bromine fluoride	BrF5	7789-30-2	Liquid	ppm	0,1	Fullface mask	AX		7,15
Bromine pentafluoride	BrF5	7789-30-2	Liquid	ppm	0,1	Fullface mask	AX		7,15
Bromochloromethane	CH2BrCl	74-97-5	Liquid	ppm	200	Fullface mask	A		5,29
Bromoethane	CH3CH2Br	74-96-4	Liquid	ppm	200	Fullface mask	AX		4,46
Bromoethene	CH2=CHBr	593-60-2	Gas	ppm	5	Half or Fullface mask	AX		4,38
Bromoethylene	CH2=CHBr	593-60-2	Gas	ppm	5	Half or Fullface mask	AX		4,38
Bromoform	CHBr3	75-25-2	Liquid	ppm	0,5	Fullface mask	A		10,34

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H2O = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Bromomethane	CH3Br	74-83-9	Gas	ppm	5	Fullface mask	AX		3,86
5-Bromo-6-methyl-3-(1-methylpropyl) uracil	C9H13BrN2O2	314-40-9	Solid	ppm	1	Half or Fullface mask	AB	P3	10,68
5-Bromo-3-sec-butyl-6-methyluracil	C9H13BrN2O2	314-40-9	Solid	ppm	1	Half or Fullface mask	AB	P3	10,68
Burned lime	CaO	1305-78-8	Solid	mg/m3	2	Fullface mask		P2/P3	
Burnt lime	CaO	1305-78-8	Solid	mg/m3	2	Fullface mask		P2/P3	
1,3- butadiene	CH2=CHCH=CH2	106-99-0	Liquid	ppm	VLE= 1	Fullface mask	AX		2,21
Butan- 2-one	CH3COCH2CH3	78-93-3	Liquid	ppm	200	Fullface mask	A		2,95
Butane	CH3CH2CH2CH3	106-97-8	Gas	ppm	600	Half or Fullface mask	AX		2,38
1-butanol	CH3CH2CH2CH2OH	71-36-3	Liquid	ppm	50	Fullface mask	A		3,03
2-butanol	CH3CH(OH)CH2CH3	78-92-2	Liquid	ppm	100	Fullface mask	A		3,03
2-Butanone	CH3COCH2CH3	78-93-3	Liquid	ppm	200	Fullface mask	A		2,95
2- butoxyethanol	C4H9OCH2CH2OH	111-76-2	Liquid	ppm	25	Fullface mask	A	P3	4,83
Butyl- 2,3- epoxypropyl ether	C7 H14 O2	6/08/26	Liquid	ppm	5,6	Fullface mask	A		5,33
Butyl 2-propenoate	CH2=CHCOOC4H9	141-32-2	Liquid	ppm	10	Fullface mask	A		5,24
Butyl acetate	CH3COO[CH2]3CH3	123-86-4	Liquid	ppm	150	Fullface mask	A		4,75
Butyl acrylate	CH2=CHCOOC4H9	141-32-2	Liquid	ppm	10	Fullface mask	A		5,24
Butyl cellosolve®, dowanol® eb	C4H9OCH2CH2OH	111-76-2	Liquid	ppm	25	Fullface mask	A	P3	4,83
Butyl ester of 2-hydroxypropanoic acid	CH3CH(OH)COOC4H9	138-22-7	Liquid	ppm	5	Half or Fullface mask	A	P3	5,98
Butyl ethanoate	CH3COO[CH2]3CH3	123-86-4	Liquid	ppm	150	Fullface mask	A		4,75
Butyl ethyl ketone	CH3CH2CO[CH2]3CH3	106-35-4	Liquid	ppm	50.00	Fullface mask	A		4,67
Butyl hydride	CH3CH2CH2CH3	106-97-8	Gas	ppm	600	Half or Fullface mask	AX		2,38
Butyl methyl ketone	CH3CO[CH2]3CH3	591-78-6	Liquid	ppm	5	Fullface mask	A		4,1
Butyl phosphate	(CH3[CH2]3O)3PO	126-73-8	Liquid	mg/m3	2,5	Fullface mask	A	P3	10,89
Butylamine	CH3CH2CH2CH2NH2	109-73-9	Liquid	ppm	5	Fullface mask	BK		2,99
C									
Cadmium & cadmium compounds except cadmium oxide fume & cadmium sulphide pigments	Cd	7440-43-9	Solid	mg/m3	0	Fullface mask		P3	
Cadmium sulphide pigments respirable dust (as cd) metal	Cd S	7440-43-9	Solid	mg/m3	VLE=0,05	Half or Fullface mask		P3	
Caesium hydroxide	CsOH	21351-79-1	Solid	mg/m3	2	Half or Fullface mask	B		
Calcium carbimide	CaCN2	156-62-7	Solid	mg/m3	0,5	SCBA or Supplied-Air			
Calcium carbonate	CaCO3	1317-65-3	Solid	mg/m3	5	Half or Fullface mask		P3	
Calcium cyanamide	CaCN2	156-62-7	Solid	mg/m3	0,5	SCBA or Supplied-Air			
Calcium hydrate	Ca(OH)2	1305-62-0	Solid	mg/m3	5	Half or Fullface mask		P3	
Calcium hydrosilicate	CaSiO3	1344-95-2	Solid	mg/m3	5	Half or Fullface mask		P2/P3	
Calcium hydroxide	Ca(OH)2	1305-62-0	Solid	mg/m3	5	Half or Fullface mask		P3	
Calcium monosilicate	CaSiO3	1344-95-2	Solid	mg/m3	5	Half or Fullface mask		P2/P3	
Calcium sulfate hemihydrate	CaSO4 • 0.5H2O	26499-65-0	Solid	mg/m3	5	Half or Fullface mask		P3	
2-camphonone	C10H16O	76-22-2	Solid	mg/m3	2	Half or Fullface mask	A	P3	
Cane sugar	C12H22O11	57-50-1	Solid	mg/m3	10.00	Half or Fullface mask		P2/P3	
Captafol (iso)	C10H9Cl14NO2S	1/06/25	Solid	mg/m3	0,1	Fullface mask	A		
Captan (iso)	C9H8Cl3NO2S	133-06-2	Solid	mg/m3	5	Half or Fullface mask	A	P3	
Captane	C9H8Cl3NO2S	133-06-2	Solid	mg/m3	5	Half or Fullface mask	A	P3	
Carbamaldehyde	HCONH2	75-12-7	Liquid	ppm	10	Fullface mask	A	P3	1,85
Carbaryl (iso)	CH3NHCOOC10H7	63-25-2	Solid	mg/m3	5	Half or Fullface mask	A		
Carbinol	CH3OH	67-56-1	Liquid	ppm	200.00	Fullface mask	AX		1,31
Carbofuran (iso)	C12H15NO3	1563-66-2	Solid	mg/m3	0,1	Half or Fullface mask	A	P3	
Carbolic acid	C6H5OH	108-95-2	Solid	ppm	5.00	Fullface mask	A	P3	3,85
2-Carbomethoxy-1-methylvinyl dimethyl phosphate	C7H13PO6	7786-34-7	Liquid	ppm	0.01	Fullface mask	A	P3	9,17
Carbon black	C	1333-86-4	Solid	mg/m3	3,5	Fullface mask		P3	
Carbon bromide	CBr4	558-13-4	Solid	mg/m3	1,4	Half or Fullface mask	A		13,57
Carbon chloride	CCl4	56-23-5	Liquid	ppm	2	Fullface mask	A		6,29
Carbon dioxide	CO2	124-38-9	Gas	ppm	5000	SCBA or Supplied-Air			1,8
Carbon disulphide	C S2	75-15-0	Liquid	ppm	10	Fullface mask	AX		3,11
Carbon hexachloride	Cl3CCCl3	67-72-1	Solid	ppm	1	Fullface mask	A	P3	9,68
Carbon monoxide	CO	630-08-0	Gas	ppm	50	SCBA or Supplied-Air			1,14
Carbon oxychloride	COCl2	75-44-5	Gas	ppm	0,1	Fullface mask	B	P3	4,05
Carbon silicide	SiC	409-21-2	Solid	mg/m3	5	Half or Fullface mask		P3	
Carbon tetrachloride	CCl4	56-23-5	Liquid	ppm	2	Fullface mask	A		6,29
Carbonyl chloride	COCl2	75-44-5	Gas	ppm	0,1	Fullface mask	B	P3	4,05
Carborundum®	SiC	409-21-2	Solid	mg/m3	5	Half or Fullface mask		P3	

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air - semi-developed chemical formula: H20 = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Carboxyethane	CH3CH2COOH	79-09-4	Liquid	ppm	10.00	Fullface mask	A	P3	3,03
Caustic baryla	Ca(OH)2	1305-62-0	Solid	mg/m3	5	Half or Fullface mask		P3	
Caustic potash	KOH	1310-58-3	Solid	mg/m3	2.00 (ST)	Fullface mask		P3	
CB	CH2BrCl	74-97-5	Liquid	ppm	200	Fullface mask	A		5,29
Cd: Cadmium	CdO/Cd	1306-19-0	Solid	mg/m3	VLE=0,05	Fullface mask		P3	
Cdo: Cadmium monoxide, Cadmium oxide fume	CdO/Cd	1306-19-0	Solid	mg/m3	VLE=0,05	Fullface mask		P3	
Cellosolve®	C2H5OCH2CH2OH	110-80-5	Liquid	ppm	0,5	Fullface mask	A		3,69
Cellulose	(C6H10O5)n	9004-34-6	Solid	mg/m3	5	Half or Fullface mask		P3	
Cement	as Portland Cement	65997-15-1	Solid	mg/m3	10	Half or Fullface mask		P2/P3	
Cesium hydrate	CsOH	21351-79-1	Solid	mg/m3	2	Half or Fullface mask	B		
CFC-113	CCl2FCClF2	76-13-1	Liquid	ppm	1000.00	SCBA or Supplied-Air			7,67
Cfc-113	CCl2FCClF2	76-13-1	Liquid	ppm	1000.00	SCBA or Supplied-Air			7,67
Chlorcyan	ClCN	506-77-4	Liquid	ppm	0,3	Fullface mask	B 450		2,52
Chlordan	C10H6Cl8	57-74-9	Solid	mg/m3	0,5	Half or Fullface mask	A	P3	
Chlordane (iso)	C10H6Cl8	57-74-9	Solid	mg/m3	0,5	Half or Fullface mask	A	P3	
Chlordano; 1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane	C10H6Cl8	57-74-9	Solid	mg/m3	0,5	Half or Fullface mask	A	P3	
Chlorine	Cl2	7782-50-5	Gas	ppm	0,5	Fullface mask	B		2,9
Chlorine cyanide	ClCN	506-77-4	Liquid	ppm	0,3	Fullface mask	B 450		2,52
Chlorine dioxide	Cl O2	10049-04-4	Gas	ppm	0,1	Half or Fullface mask	B		2,76
Chlorine fluoride	ClF3	7790-91-2	Gas	ppm	0,1	Fullface mask	B		3,78
Chlorine fluoride oxide	ClO3F	7616-94-6	Gas	ppm	3.00	Fullface mask	B 450		4,19
Chlorine oxide	Cl O2	10049-04-4	Gas	ppm	0,1	Half or Fullface mask	B		2,76
Chlorine oxyfluoride	ClO3F	7616-94-6	Gas	ppm	3.00	Fullface mask	B 450		4,19
2-Chloro-1,3-butadiene	CH2=CClCH=CH2	126-99-8	Liquid	ppm	VLE = 1	Fullface mask	AX	P3	3,62
1-Chloro-2,3-dibromopropane	CH2BrCHBrCH2Cl	96-12-8	Liquid	ppm	0,001	SCBA or Supplied-Air			9,67
2-Chloro-1-(difluoromethoxy) 1,1,2-trifluoroethane	CHF2OCF2CHClF	13838-16-9	Liquid	ppm	2	SCBA or Supplied-Air			7,55
1- chloro- 2,3- epoxy- propane	C3H5OCl	106-89-8	Liquid	ppm	VLE=2	Fullface mask	A	P3	3,78
2-Chloro-4-ethylamino-6-isopropylamino-s-triazine	C8H14ClN5	1912-24-9	Solid	mg/m3	5	Half or Fullface mask		P3	
2-Chloro-1-methylbenzene	ClC6H4CH3	95-49-8	Liquid	ppm	50	Fullface mask	A		5,18
1-Chloro-2-methylbenzene	ClC6H4CH3	95-49-8	Liquid	ppm	50	Fullface mask	A		5,18
1-Chloro- 4- nitrobenzene	ClC6H4NO2	100-00-5	Solid	mg/m3	1	Fullface mask	AB	P3	
1-Chloro-2-propene	CH2=CHCH2Cl	107-05-1	Liquid	ppm	1	Fullface mask	AX		3,13
2-Chloro-6-(trichloro-methyl)pyridine	ClC5H3NCCl3	1929-82-4	Solid	mg/m3	5	Fullface mask	AB	P3	
2- chloro- 6-(trichloromethyl) pyridine	ClC5H3NCCl3	1929-82-4	Solid	mg/m3	5	Fullface mask	AB	P3	
2-Chloro-1,1,2-Trifluoroethyl difluoromethyl ether	CHF2OCF2CHClF	13838-16-9	Liquid	ppm	2	SCBA or Supplied-Air			7,55
2-chloroacetaldehyde	ClCH2CHO	107-20-0	Liquid	ppm	1	Fullface mask	A		3,21
Chloroacetic acid chloride	ClCH2COCl	79-04-9	Liquid	ppm	0,05	Fullface mask	A	P3	4,62
Chloroacetic chloride	ClCH2COCl	79-04-9	Liquid	ppm	0,05	Fullface mask	A	P3	4,62
2-chloroacetophenone	C6H5COCH2Cl	532-27-4	Solid	ppm	0,3	Fullface mask	ABEK	P3	6,32
2- chlorobuta- 1,3- diene	CH2=CClCH=CH2	126-99-8	Liquid	ppm	VLE = 1	Fullface mask	AX	P3	3,62
Chlorocarbonate d'isopropyle	C4H7ClO2/(CH3)2CHOCOCl	108-23-6	Liquid	ppm	? 1.00	Fullface mask	A	P3	
Chlorocyanide	ClCN	506-77-4	Liquid	ppm	0,3	Fullface mask	B 450		2,52
Chlorodifluoromethane	CHClF2	75-45-6	Gas	ppm	1000	SCBA or Supplied-Air			3,54
Chlorodimethyl ether	CH3OCH2Cl	107-30-2	Liquid			SCBA or Supplied-Air			
2-Chloroethanal	ClCH2CHO	107-20-0	Liquid	ppm	1	Fullface mask	A		3,21
Chloroethane	CH3CH2Cl	75-00-3	Liquid	ppm	1000	Half or Fullface mask	AX		2,64
Chloroéthanoic acid	ClCH2COOH	79-11-8	Liquid	ppm	0.30	Fullface mask	A	P3	
2-Chloroethanol	CH2ClCH2OH	107-07-3	Liquid	ppm	1	Fullface mask	A		3,29
Chloroethene	CH2=CHCl	75-01-4	Gas	ppm	1	Fullface mask	AX		2,56
2-Chloroethyl alcohol	CH2ClCH2OH	107-07-3	Liquid	ppm	1	Fullface mask	A		3,29
Chloroform	CHCl3	67-66-3	Liquid	ppm	2	Fullface mask	AX		4,88
Chloroformyl chloride	COCl2	75-44-5	Gas	ppm	0,1	Fullface mask	B	P3	4,05
Chloromethane	CH3Cl	74-87-3	Gas	ppm	100	SCBA or Supplied-Air			2,07
Chloromethoxymethane	CH3OCH2Cl	107-30-2	Liquid			SCBA or Supplied-Air			
Chloropentafluoroethane	CClF2CF3	76-15-3	Gas	ppm	1000	SCBA or Supplied-Air			6,32
Chloropicrin	CCl3NO2	76-06-2	Liquid	ppm	0,1	Fullface mask	A	P3	6,72
3-chloropropylene	CH2=CHCH2Cl	107-05-1	Liquid	ppm	1	Fullface mask	AX		3,13
2-Chloropropylene oxide	C3H5OCl	106-89-8	Liquid	ppm	VLE=2	Fullface mask	A	P3	3,78
Chlorosulfuric acid	HClO3S	7790-94-5	Solid	mg/m3	1	Fullface mask	E	P3	
Chlorothene	CH3CCl3	71-55-6	Liquid	ppm	300	Fullface mask	A		5,36
2- chlorotoluene	ClC6H4CH3	95-49-8	Liquid	ppm	50	Fullface mask	A		5,18

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H2O = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Chromic acid (cro3)	CrO3	1333-82-0	Solid	mg/m3	0,05	Fullface mask	BE	P3	
Chromic anhydride	CrO3	1333-82-0	Solid	mg/m3	0,05	Fullface mask	BE	P3	
Chromic oxide	CrO3	1333-82-0	Solid	mg/m3	0,05	Fullface mask	BE	P3	
Chromium	Cr	7440-47-3	Solid	mg/m3	0,5	Fullface mask		P3	
Chrysotile, crocidolite (riebeckite)	Hydrated mineral silicates	1332-21-4	Fibre	fibres/ml	MEL	Fullface mask		P3	
Ci-2	CH3C5H4Mn(CO)3	12108-13-3	Liquid	mg/m3	0.20	Fullface mask	A	P3	
Cinerin I or II	C20H28O3 / C21H28O5 C21H30O3 / C22H30O5								
	C21H28O3 / C22H28O5	8003-34-7	Solid	mg/m3	5.00	Fullface mask	A	P3	
Cobalt and compounds (as co)	Co	7440-48-4	Solid	mg/m3	VLE	Half or Fullface mask		P2/P3	
Combustion improver-2	CH3C5H4Mn(CO)3	12108-13-3	Liquid	mg/m3	0.20	Fullface mask	A	P3	
Copper, dusts and mists	Cu	7440-50-8	Solid	mg/m3	1	Fullface mask		P3	
Crag® herbicide No. 1	C6H3Cl2OCH2CH2OSO3Na	136-78-7	Solid	mg/m3	5	Fullface mask		P3	
Cresols (all isomers)	C7 H8 O	1319-77-2	Liquid	ppm	5	Fullface mask	A	P3	4,4
Cristobalite	SiO2	14808-60-7	Solid	mg/m3	0,025	Half or Fullface mask		P3	
Cumene	C6H5CH(CH3)2	98-82-8	Liquid	ppm	50	Fullface mask	A		4,92
Cyanamide	CaCN2	156-62-7	Solid	mg/m3	0,5	SCBA or Supplied-Air			
Cyanides, except hydrogen cyanide, cyanogen & cyanogen chloride, (as -cn)	C- N	57-12-5	Solid	mg/m3	5	Fullface mask	B	P3	
2-Cyano-1-propene	CH2=C(CH3)CN	126-98-7	Liquid	ppm	1.00	Fullface mask	AB 450	P3	2,74
2-cyano-2-propenoic acid, ethyl ester	C6H7NO2	7085-85-0	Liquid	mg/m3	1.500	Fullface mask	AXB	P3	5,2
2-Cyanoacrylic acid, ethyl ester	C6H7NO2	7085-85-0	Liquid	mg/m3	1.500	Fullface mask	AXB	P3	5,2
2-cyanopropene-1	CH2=C(CH3)CN	126-98-7	Liquid	ppm	1.00	Fullface mask	AB 450	P3	2,74
1,4-Cyclohexadiene dioxide	OC6H4O	106-51-4	Solid	ppm	0,1	Fullface mask	A	P3	4,42
Cyclohexane	C6 H12	110-82-7	Liquid	ppm	300	Half or Fullface mask	A		3,44
Cyclohexene	C6 H10	110-83-8	Liquid	ppm	300	Half or Fullface mask	A		3,36
Cyclohexylmethane	CH3C6H11	108-87-2	Liquid	ppm	400	Half or Fullface mask	A		4,02
Cyhexatin (iso)	(C6H11)3SnOH	13121-70-5	Solid	mg/m3	5	Fullface mask	A	P3	
D									
2,4- D (iso)	Cl2C6H3OCH2COOH	94-75-7	Solid	mg/m3	10	Fullface mask		P3	
Dactin	C5H6Cl2N2O2	118-52-5	Solid	mg/m3	0,2	Fullface mask	ABEK	P3	
Dbcp	CH2BrCHBrCH2Cl	96-12-8	Liquid	ppm	0,001	SCBA or Supplied-Air			9,67
Dbp	C6H4(COOC4H9)2	84-74-2	Liquid	mg/m3	5	Fullface mask	A	P3	11,4
Dca	C2Cl2	7572-29-4	Liquid	ppm	0,1	SCBA or Supplied-Air			3,88
Ddh	C5H6Cl2N2O2	118-52-5	Solid	mg/m3	0,2	Fullface mask	ABEK	P3	
Ddt	(C6H4Cl)2CHCCl3	50-29-3	Solid	mg/m3	1.00	Fullface mask		P3	
Ddvp	(CH3O)2P(O)OCH=CCl2	62-73-7	Liquid	ppm	0,1	Fullface mask	A	P3	9,02
Dehp/dop	C24H38O4	117-81-7	Liquid	mg/m3	5	Half or Fullface mask	A	P3	
Dek	CH3CH2COCH2CH3	96-22-0	Liquid	ppm	200	Half or Fullface mask	A		3,53
Di(2,3-epoxypropyl) ether	C6H10O3	5/07/38	Liquid	ppm	0,1	Fullface mask	A	P3	5,33
Di- N- Butyl Phoshate	(C4H9O)2(OH)PO	107-66-4	Liquid	ppm	1	Fullface mask	A	P3	8,6
6,6'- di- tert- butyl- 4,4'- thiodi- m- cresol	[CH3(OH)C6H2C(CH3)3]2S	96-69-5	Solid	mg/m3	5	Half or Fullface mask		P3	
6,6- di- tert- butyl- 4,4- thiodo- m- cresol	[CH3(OH)C6H2C(CH3)3]2S	96-69-5	Solid	mg/m3	5	Half or Fullface mask		P3	
Diacetone	CH3COCH2C(CH3)2OH	123-42-2	Liquid	ppm	50.00	Fullface mask	A		4,75
Diallyl phthalate	C14 H14 O4	131-17-9	Liquid	ppm	5	Half or Fullface mask	A	P3	
Diamine	H2NNH2	302-01-2	Liquid	ppm	0,1	Fullface mask	K	P3	0,1
2,2'-Diaminodiethylamine	NH2CH2CH2)2NH	111-40-0	Liquid	ppm	1	Fullface mask	ABEK	P3	4,22
4,4'- Diaminodiphenylmethane	CH2(C6H4NH2)2	101-77-9	Solid	ppm	0,01	Fullface mask	A	P3	
1,2- diaminoethane	NH2CH2CH2NH2	107-15-3	Liquid	ppm	10	Fullface mask	A		2,46
Diammonium peroxodisulphate	N2 H8 S2 O8	7727-54-0	Solid	mg/m3	1	Fullface mask	A	P3	
Diatomaceous earth, natural, respirable dust	SiO2	68855-54-9	Solid	mg/m3	1,2	Fullface mask		P3	
Diazide®	C12H21N2O3PS	333-41-5	Liquid	mg/m3	0,1	Fullface mask	BE	P3	
Diazinon (iso)	C12H21N2O3PS	333-41-5	Liquid	mg/m3	0,1	Fullface mask	BE	P3	
Dibasic zinc stearate	Zn(C18H35O2)2	557-05-1	Solid	mg/m3	5	Fullface mask		P3	
DIBENZ(a, h) ANTHRACENE	C22 H14	65996-93-2	Solid	mg/m3	0,1	Fullface mask	A	P3	
Dibenzoyl peroxide	(C6H5CO)2O2	94-36-0	Solid	mg/m3	5	Half or Fullface mask	A	P3	
Diboron trioxide	B2O3	1303-86-2	Solid	mg/m3	10	Half or Fullface mask		P3	
Dibrom®	(CH3O)2P(O)OCHBrCBrCl2	300-76-5	Solid	mg/m3	3	Fullface mask	A	P3	
1,2- dibromo- 3- chloropropane	CH2BrCHBrCH2Cl	96-12-8	Liquid	ppm	0,001	SCBA or Supplied-Air			9,67
1,2-Dibromo-2,2-dichloroethyl dimethyl phosphate	(CH3O)2P(O)OCHBrCBrCl2	300-76-5	Solid	mg/m3	3	Fullface mask	A	P3	

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air - semi-developed chemical formula: H20 = H20**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Carboxyethane	CH3CH2COOH	79-09-4	Liquid	ppm	10.00	Fullface mask	A	P3	3,03
Caustic baryla	Ca(OH)2	1305-62-0	Solid	mg/m3	5	Half or Fullface mask		P3	
Caustic potash	KOH	1310-58-3	Solid	mg/m3	2.00 (ST)	Fullface mask		P3	
CB	CH2BrCl	74-97-5	Liquid	ppm	200	Fullface mask	A		5,29
Cd: Cadmium	CdO/Cd	1306-19-0	Solid	mg/m3	VLE=0,05	Fullface mask		P3	
Cdo: Cadmium monoxide, Cadmium oxide fume	CdO/Cd	1306-19-0	Solid	mg/m3	VLE=0,05	Fullface mask		P3	
Cellosolve®	C2H5OCH2CH2OH	110-80-5	Liquid	ppm	0,5	Fullface mask	A		3,69
Cellulose	(C6H10O5)n	9004-34-6	Solid	mg/m3	5	Half or Fullface mask		P3	
Cement	as Portland Cement	65997-15-1	Solid	mg/m3	10	Half or Fullface mask		P2/P3	
Cesium hydrate	CsOH	21351-79-1	Solid	mg/m3	2	Half or Fullface mask	B		
CFC-113	CCl2FCClF2	76-13-1	Liquid	ppm	1000.00	SCBA or Supplied-Air			7,67
Cfc-113	CCl2FCClF2	76-13-1	Liquid	ppm	1000.00	SCBA or Supplied-Air			7,67
Chlorcyan	ClCN	506-77-4	Liquid	ppm	0,3	Fullface mask	B 450		2,52
Chlordan	C10H6Cl8	57-74-9	Solid	mg/m3	0,5	Half or Fullface mask	A	P3	
Chlordane (iso)	C10H6Cl8	57-74-9	Solid	mg/m3	0,5	Half or Fullface mask	A	P3	
Chlordano; 1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane	C10H6Cl8	57-74-9	Solid	mg/m3	0,5	Half or Fullface mask	A	P3	
Chlorine	Cl2	7782-50-5	Gas	ppm	0,5	Fullface mask	B		2,9
Chlorine cyanide	ClCN	506-77-4	Liquid	ppm	0,3	Fullface mask	B 450		2,52
Chlorine dioxide	Cl O2	10049-04-4	Gas	ppm	0,1	Half or Fullface mask	B		2,76
Chlorine fluoride	ClF3	7790-91-2	Gas	ppm	0,1	Fullface mask	B		3,78
Chlorine fluoride oxide	ClO3F	7616-94-6	Gas	ppm	3.00	Fullface mask	B 450		4,19
Chlorine oxide	Cl O2	10049-04-4	Gas	ppm	0,1	Half or Fullface mask	B		2,76
Chlorine oxyfluoride	ClO3F	7616-94-6	Gas	ppm	3.00	Fullface mask	B 450		4,19
2-Chloro-1,3-butadiene	CH2=CClCH=CH2	126-99-8	Liquid	ppm	VLE = 1	Fullface mask	AX	P3	3,62
1-Chloro-2,3-dibromopropane	CH2BrCHBrCH2Cl	96-12-8	Liquid	ppm	0,001	SCBA or Supplied-Air			9,67
2-Chloro-1-(difluoromethoxy) 1,1,2-trifluoroethane	CHF2OCF2CHClF	13838-16-9	Liquid	ppm	2	SCBA or Supplied-Air			7,55
1- chloro- 2,3- epoxy- propane	C3H5OCl	106-89-8	Liquid	ppm	VLE=2	Fullface mask	A	P3	3,78
2-Chloro-4-ethylamino-6-isopropylamino-s-triazine	C8H14ClN5	1912-24-9	Solid	mg/m3	5	Half or Fullface mask		P3	
2-Chloro-1-methylbenzene	ClC6H4CH3	95-49-8	Liquid	ppm	50	Fullface mask	A		5,18
1-Chloro-2-methylbenzene	ClC6H4CH3	95-49-8	Liquid	ppm	50	Fullface mask	A		5,18
1-Chloro- 4- nitrobenzene	ClC6H4NO2	100-00-5	Solid	mg/m3	1	Fullface mask	AB	P3	
1-Chloro-2-propene	CH2=CHCH2Cl	107-05-1	Liquid	ppm	1	Fullface mask	AX		3,13
2-Chloro-6-(trichloro-methyl)pyridine	ClC5H3NCCl3	1929-82-4	Solid	mg/m3	5	Fullface mask	AB	P3	
2- chloro- 6-(trichloromethyl) pyridine	ClC5H3NCCl3	1929-82-4	Solid	mg/m3	5	Fullface mask	AB	P3	
2-Chloro-1,1,2-Trifluoroethyl difluoromethyl ether	CHF2OCF2CHClF	13838-16-9	Liquid	ppm	2	SCBA or Supplied-Air			7,55
2-chloroacetaldehyde	ClCH2CHO	107-20-0	Liquid	ppm	1	Fullface mask	A		3,21
Chloroacetic acid chloride	ClCH2COCl	79-04-9	Liquid	ppm	0,05	Fullface mask	A	P3	4,62
Chloroacetic chloride	ClCH2COCl	79-04-9	Liquid	ppm	0,05	Fullface mask	A	P3	4,62
2-chloroacetophenone	C6H5COCH2Cl	532-27-4	Solid	ppm	0,3	Fullface mask	ABEK	P3	6,32
2- chlorobuta- 1,3- diene	CH2=CClCH=CH2	126-99-8	Liquid	ppm	VLE = 1	Fullface mask	AX	P3	3,62
Chlorocarbonate d'isopropyle	C4H7ClO2/(CH3)2CHOCOCl	108-23-6	Liquid	ppm	? 1.00	Fullface mask	A	P3	
Chlorocyanide	ClCN	506-77-4	Liquid	ppm	0,3	Fullface mask	B 450		2,52
Chlorodifluoromethane	CHClF2	75-45-6	Gas	ppm	1000	SCBA or Supplied-Air			3,54
Chlorodimethyl ether	CH3OCH2Cl	107-30-2	Liquid			SCBA or Supplied-Air			
2-Chloroethanal	ClCH2CHO	107-20-0	Liquid	ppm	1	Fullface mask	A		3,21
Chloroethane	CH3CH2Cl	75-00-3	Liquid	ppm	1000	Half or Fullface mask	AX		2,64
Chloroéthanoic acid	ClCH2COOH	79-11-8	Liquid	ppm	0.30	Fullface mask	A	P3	
2-Chloroethanol	CH2ClCH2OH	107-07-3	Liquid	ppm	1	Fullface mask	A		3,29
Chloroethene	CH2=CHCl	75-01-4	Gas	ppm	1	Fullface mask	AX		2,56
2-Chloroethyl alcohol	CH2ClCH2OH	107-07-3	Liquid	ppm	1	Fullface mask	A		3,29
Chloroform	CHCl3	67-66-3	Liquid	ppm	2	Fullface mask	AX		4,88
Chloroformyl chloride	COCl2	75-44-5	Gas	ppm	0,1	Fullface mask	B	P3	4,05
Chloromethane	CH3Cl	74-87-3	Gas	ppm	100	SCBA or Supplied-Air			2,07
Chloromethoxymethane	CH3OCH2Cl	107-30-2	Liquid			SCBA or Supplied-Air			
Chloropentafluoroethane	CClF2CF3	76-15-3	Gas	ppm	1000	SCBA or Supplied-Air			6,32
Chloropicrin	CCl3NO2	76-06-2	Liquid	ppm	0,1	Fullface mask	A	P3	6,72
3-chloropropylene	CH2=CHCH2Cl	107-05-1	Liquid	ppm	1	Fullface mask	AX		3,13
2-Chloropropylene oxide	C3H5OCl	106-89-8	Liquid	ppm	VLE=2	Fullface mask	A	P3	3,78
Chlorosulfuric acid	HClO3S	7790-94-5	Solid	mg/m3	1	Fullface mask	E	P3	
Chlorothene	CH3CCl3	71-55-6	Liquid	ppm	300	Fullface mask	A		5,36
2- chlorotoluene	ClC6H4CH3	95-49-8	Liquid	ppm	50	Fullface mask	A		5,18

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H20 = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Diisopropylamine	[(CH3)2CH]2NH	108-18-9	Liquid	ppm	5	Fullface mask	K		4,14
Dimazine	(CH3)2NNH2	57-14-7	Liquid	ppm	0,06	Fullface mask	K 450		2,46
Dimethoxymethane	CH3OCH2OCH3	109-87-5	Liquid	ppm	1000	Fullface mask	AX		3,71
1,1'-Dimethyl-4,4'-bipyridinium dichloride	CH3(C5H4N)2CH3 • 2Cl	1910-42-5	Solid	mg/m3	0,1	Fullface mask	A	P3	
Dimethyl carbinol	(CH3)2CHOH	67-63-0	Liquid	ppm	400.00	Fullface mask	A		2,46
3,3'-Dimethyl-4,4'-diphenyldiamine	C14H16N2	119-93-7	Solid	mg/m3	0,02	Fullface mask	A	P3	
Dimethyl ester of 1,2-benzenedicarboxylic acid	C6H4(COOCH3)2	131-11-3	Liquid	mg/m3	5	Fullface mask	A	P3	
Dimethyl ester of sulfuric acid	(CH3)2SO4	77-78-1	Liquid	ppm	0,1	Fullface mask	A	P3	5,16
Dimethyl ether	H6 C2 O	115-10-6	Gas	ppm	400	SCBA or Supplied-Air			
Dimethyl methane	CH3CH2CH3	74-98-6	Gas	ppm	1000	SCBA or Supplied-Air			1,8
Dimethyl phthalate	C6H4(COOCH3)2	131-11-3	Liquid	mg/m3	5	Fullface mask	A	P3	
Dimethyl sulphate	(CH3)2SO4	77-78-1	Liquid	ppm	0,1	Fullface mask	A	P3	5,16
Dimethylacetone	CH3CH2COCH2CH3	96-22-0	Liquid	ppm	200	Half or Fullface mask	A		3,53
Dimethylamine	(CH3)2NH	124-40-3	Gas	ppm	10	Fullface mask	K		1,85
Dimethylamine (anhydrous)	(CH3)2NH	124-40-3	Gas	ppm	10	Fullface mask	K		1,85
Dimethylaminobenzene	CH3)2C6H3NH2	1300-73-8	Liquid	ppm	2.00	Half or Fullface mask	A		4,96
Dimethylaminoethanol	C4H11NO/(CH3)2NCH2CH2OH	108-01-0	Liquid	ppm	? 2	Fullface mask	A		
3,3'-dimethylbenzidine	C14H16N2	119-93-7	Solid	mg/m3	0,02	Fullface mask	A	P3	
1,3- Dimethylbutyl acetate	C8 H16 O2	108-84-9	Liquid	ppm	50	Fullface mask	A		5,9
Dimethylene oxide	C2H4O	75-21-8	Liquid	ppm	5	Fullface mask	AX		1,8
Dimethylformamide	HCON(CH3)2	68-12-2	Liquid	ppm	10	Fullface mask	A		2,99
Dimethylnitromethane	(CH3)2CH(NO2)	79-46-9	Liquid	ppm	10	Fullface mask	A	P3	3,64
Dimethylnitrosamine	(CH3)2N2O	62-75-9	Liquid			Fullface mask	A	P3	
Dimethylsulfate	(CH3)2SO4	77-78-1	Liquid	ppm	0,1	Fullface mask	A	P3	5,16
3,5-Dinitro-2-hydroxytoluene	CH3C6H2OH(NO2)2	534-52-1	Solid	mg/m3	0.20	Half or Fullface mask		P3	
1,4-dinitrobenzene	C6H4(NO2)2	100-25-4	Solid	mg/m3	1	Half or Fullface mask	A	P3	
Dinitrobenzene, all isomers	C6H4(NO2)2	100-25-4	Solid	mg/m3	1	Half or Fullface mask	A	P3	
Dinitrogen monoxide/laughing gas	N2 O	10024-97-2	Gas	ppm	25	Fullface mask	NO		1,8
Dinitrogen tetroxide (N2O4)	N O2	10102-44-0	Gas	ppm	3	Fullface mask	NO		1,88
1,4- dioxane, tech. Grade	C4H8O2	123-91-1	Liquid	ppm	10	Fullface mask	A	P3	3,6
2,3-p-Dioxanethiol S,S-bis(O,O-diethyl phosphoro-dithioate)	C4H6O2[SPS(OC2H5)2]2	78-34-2	Liquid	mg/m3	0,2	Fullface mask	A	P3	
Dipa	[(CH3)2CH]2NH	108-18-9	Liquid	ppm	5	Fullface mask	K		4,14
Diphenyl	C6H5C6H5	92-52-4	Solid	ppm	0,2	Fullface mask	A	P3	6,31
Diphenyl ether (vapor)	C6H5OC6H5	101-84-8	Liquid	ppm	1	Fullface mask	A	P3	6,96
1,2-Diphenylbenzene	C6H5C6H4C6H5	84-15-1	Solid	ppm	0.50	Half or Fullface mask		P3	9,42
4,4'-Diphenylmethane diisocyanate	CH2(C6H4NCO)3	101-68-8	Solid	ppm	0,01	Fullface mask	A	P3	10,24
Diphosphorus pentasulphide	P2S5/P4S10	1314-80-3	Solid	mg/m3	1	Fullface mask	B 450	P3	
Dipotassium peroxodispulphate (measured as s2o8)*	H2 K2 O8 S2	7727-21-1	Solid	mg/m3	1	Fullface mask	AB	P	
Diquat dibromide (iso)	C12H12N2Br2	85-00-7	Solid	mg/m3	0,5	Fullface mask		P3	
Direx®	C6H3Cl2NHCON(CH3)2	330-54-1	Solid	mg/m3	10	Half or Fullface mask		P3	
Disodium disulphite	Na2S2O5	7681-57-4	Solid	mg/m3	5	Fullface mask	B	P3	
Disodium peroxodisulphate (measured as s2o8)	Na2 O8 S2	7775-27-1	Solid	mg/m3	1	Fullface mask	A	P3	
Disodium tetraborate, decahydrate	Na2B4O7 • 10H2O	1303-96-4	Solid	mg/m3	5	Fullface mask		P3	
Disodium tetraborate, pentahydrate	B4 O7 2Na 10H 2O	11130-12-4	Solid	mg/m3	1	Half or Fullface mask	A	P3	
Disulfoton (iso)	C8H19O2PS3	298-04-4	Liquid	mg/m3	0,1	Fullface mask	ABE	P3	
Disulphur decafluoride	S2F10	5714-22-7	Liquid	ppm	0,01	Fullface mask	B	P3	10,39
Disulphur dichloride	S2 Cl2	10025-67-9	Liquid	ppm	1	Fullface mask	B	P3	5,52
Di-syston®	C8H19O2PS3	298-04-4	Liquid	mg/m3	0,1	Fullface mask	ABE	P3	
2,6- ditertiary- butyl- para- cresol	[C(CH3)3]2CH3C6H2OH	128-37-0	Solid	mg/m3	10	Fullface mask		P	
Dithion®	[(CH3CH2O)2PS]2O	3689-24-5	Liquid	mg/m3	0.20	Fullface mask	ABE	P3	13,18
Diuron (iso)	C6H3Cl2NHCON(CH3)2	330-54-1	Solid	mg/m3	10	Half or Fullface mask		P3	
Divanadium pentaoxide (as v)	V2O5	1314-62-1	Solid	mg/m3	VLE=0,005	Fullface mask		P3	
Divanadium pentoxide fume	V2O5	1314-62-1	Solid	mg/m3	VLE=0,005	Fullface mask		P3	
Dmac	CH3CON(CH3)2	127-19-5	Liquid	ppm	10	Half or Fullface mask	A		3,56
DMCC	(CH3)2NCOCl	79-44-7	Liquid			SCBA or Supplied-Air			
Dmf	HCON(CH3)2	68-12-2	Liquid	ppm	10	Fullface mask	A		2,99
Dmh	(CH3)2NNH2	57-14-7	Liquid	ppm	0,06	Fullface mask	K 450		2,46
D									
Eca	C6H7NO2	7085-85-0	Liquid	mg/m3	1.500	Fullface mask	AXB	P3	5,2

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H20 = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Egdn	O2NOCH2CH2ONO2	628-96-6	Liquid	ppm	0,2	Fullface mask	A	P	6,22
Egmea	CH3COOCH2CH2OCH3	110-49-6	Liquid	ppm	0,1	Fullface mask	A		4,83
Elemental selenium	Se	7782-49-2	Solid	mg/m3	0.20	Fullface mask		P3	
Endosulfan (iso)	C9H6Cl6O3S	115-29-7	Solid	mg/m3	0,1	Fullface mask	A	P3	
Endrin (iso)	C12H8Cl6O	72-20-8	Solid	mg/m3	0,1	Fullface mask		P3	
Enflurane	CHF2OCF2CHClF	13838-16-9	Liquid	ppm	2	SCBA or Supplied-Air			7,55
1,2-Epoxy ethane	C2H4O	75-21-8	Liquid	ppm	5	Fullface mask	AX		1,8
1,2-Epoxy-3-isopropoxypropane	C6H12O2	4016-14-2	Liquid	ppm	50.00	Fullface mask	A		4,75
1,2-Epoxy-3-phenoxy propane	C9H10O2	122-60-1	Liquid	ppm	1.00	Fullface mask	A		6,14
1,4-epoxybutane	C4H8O	109-99-9	Liquid	ppm	200.00	Fullface mask	A		2,95
2,3- epoxypropyl isopropyl ether	C6H12O2	4016-14-2	Liquid	ppm	50.00	Fullface mask	A		4,75
Essence of mirbane	C6H5NO2	98-95-3	Liquid	ppm	1.00	Fullface mask	A	P3	5,04
Ethanal	CH3CHO	75-07-0	Liquid	ppm	100	Fullface mask	AX		1,8
Ethane	C2 H6	74-84-0	Gas	ppm		SCBA or Supplied-Air			
Ethane- 1,2- diol	HOCH2CH2OH	107-21-1	Liquid	ppm	50	Fullface mask	A	P3	1,25
Ethanecarboxylic acid	CH3CH2COOH	79-09-4	Liquid	ppm	10.00	Fullface mask	A	P3	3,03
1,2-Ethanediamine	NH2CH2CH2NH2	107-15-3	Liquid	ppm	10	Fullface mask	A		2,46
Ethanedioic acid	HOOCCOOH • 2H2O	144-62-7	Solid	mg/m3	1.00	Fullface mask		P3	
1,2-ethanediol	HOCH2CH2OH	107-21-1	Liquid	ppm	50	Fullface mask	A	P3	1,25
1,2-Ethanediol dinitrate	O2NOCH2CH2ONO2	628-96-6	Liquid	ppm	0,2	Fullface mask	A	P	6,22
Ethanethiol	CH3CH2SH	75-08-1	Liquid	ppm	0.50	Fullface mask	AX	P3	2,54
Ethanoic acid	CH3COOH	64-19-7	Liquid	ppm	10.00	Fullface mask	A	P3	2,46
Ethanol	CH3CH2OH	64-17-5	Liquid	ppm	1000.00	Fullface mask	A		1,89
Ethenylbenzene	C6H5CH=CH2	100-42-5	Liquid	ppm	50	Fullface mask	A		4,26
Ethenylmethylbenzene	CH2=CHC6H4CH3	25013-15-4	Liquid	ppm	100.00	Fullface mask	A		4,83
Ethine	C2H2	74-86-2	Gas	ppm	2500	SCBA or Supplied-Air			1,06
2- ethoxyethyl acetate	CH3COOCH2CH2OCH2CH3	111-15-9	Liquid	ppm	0,5	Fullface mask	A		5,39
Ethrane®	CHF2OCF2CHClF	13838-16-9	Liquid	ppm	2	SCBA or Supplied-Air			7,55
Ethyl acetate	CH3COOC2H5	141-78-6	Liquid	ppm	400.00	Fullface mask	A		3,6
Ethyl acetone	CH3COCH2CH2CH3	107-87-9	Liquid	ppm	200.00	Fullface mask	A		3,52
Ethyl acrylate	CH2=CHCOOC2H5	140-88-5	Liquid	ppm	5	Fullface mask	A		4,09
Ethyl acrylate (inhibited)	CH2=CHCOOC2H5	140-88-5	Liquid	ppm	5	Fullface mask	A		4,09
Ethyl alcohol	CH3CH2OH	64-17-5	Liquid	ppm	1000.00	Fullface mask	A		1,89
Ethyl bromide	CH3CH2Br	74-96-4	Liquid	ppm	200	Fullface mask	AX		4,46
Ethyl chloroformate	C3H5ClO2 / ClCOOC2H5	541-41-3	Liquid	ppm	1.00	SCBA or Supplied-Air			
Ethyl ester of formic acid	CH3CH2OCHO	109-94-4	Liquid	ppm	100.00	Fullface mask	AX		3,03
Ethyl ketone	CH3CH2COCH2CH3	96-22-0	Liquid	ppm	200	Half or Fullface mask	A		3,53
Ethyl mercaptan	CH3CH2SH	75-08-1	Liquid	ppm	0.50	Fullface mask	AX	P3	2,54
Ethyl methyl ketone	CH3COCH2CH3	78-93-3	Liquid	ppm	200	Fullface mask	A		2,95
Ethyl nitrile	CH3CN	75-05-8	Liquid	ppm	40	Fullface mask	A		1,68
Ethyl orthosilicate	(C2H5)4SiO4	78-10-4	Liquid	ppm	10.00	Fullface mask	A		8,52
Ethyl parathion	(C2H5O)2P(S)OC6H4NO2	56-38-2	Liquid	mg/m3	0.10	Fullface mask	A2	P3	
Ethyl pyrophosphate	[(CH3CH2O)2PO]2O	107-49-3	Liquid	mg/m3	0.05	Fullface mask	A	P3	11,87
Ethyl sulfhydrate	CH3CH2SH	75-08-1	Liquid	ppm	0.50	Fullface mask	AX	P3	2,54
Ethylamine	CH3CH2NH2	75-04-7	Liquid	ppm	10	Fullface mask	K		1,85
Ethylbenzene	CH3CH2C6H5	100-41-4	Liquid	ppm	100.00	Fullface mask	A		4,34
Ethylbenzol	CH3CH2C6H5	100-41-4	Liquid	ppm	100.00	Fullface mask	A		4,34
Ethylene	C2 H4	74-85-1	Gas	ppm		SCBA or Supplied-Air			
1,1'-Ethylene-2,2'-bipyridyllium dibromide	C12H12N2Br2	85-00-7	Solid	mg/m3	0,5	Fullface mask		P3	
Ethylene bromide	BrCH2CH2Br	106-93-4	Liquid	ppm	0,05	Fullface mask	A		7,69
Ethylene chloride	ClCH2CH2Cl	107-06-2	Liquid	ppm	10	Fullface mask	A		4,05
Ethylene chlorohydrin	CH2ClCH2OH	107-07-3	Liquid	ppm	1	Fullface mask	A		3,29
Ethylene dibromide	BrCH2CH2Br	106-93-4	Liquid	ppm	0,05	Fullface mask	A		7,69
Ethylene glycol monoethyl ether acetate	CH3COOCH2CH2OCH2CH3	111-15-9	Liquid	ppm	0,5	Fullface mask	A		5,39
Ethylene glycol monomethyl ether acetate	CH3COOCH2CH2OCH3	110-49-6	Liquid	ppm	0,1	Fullface mask	A		4,83
Ethylene oxide	C2H4O	75-21-8	Liquid	ppm	5	Fullface mask	AX		1,8
Ethylenediamine	NH2CH2CH2NH2	107-15-3	Liquid	ppm	10	Fullface mask	A		2,46
2- ethylhexyl chloroformate	Cl1 C7 O2 H12	24468-13-1	Liquid	ppm	1.00	Half or Fullface mask	A	P3	
Ethylidene chloride	CHCl2CH3	75-34-3	Liquid	ppm	100	Fullface mask	AX		4,05
4-Ethylmorpholine	C6 H13 N O	100-74-3	Liquid	ppm	5.00	Fullface mask	A	P3	4,71
Ethyne	C2H2	74-86-2	Gas	ppm	2500	SCBA or Supplied-Air			1,06

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H20 = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
F									
Fenchlorphos (iso)	(CH3O)2P(S)OC6H2Cl3	299-84-3	Solid	mg/m3	10.00	Fullface mask	A	P3	
Ferbam (iso)	[(CH3)2NCS2]3Fe	14484-64-1	Solid	mg/m3	10.00	Fullface mask		P3	
Ferric dimethyl dithiocarbamate	[(CH3)2NCS2]3Fe	14484-64-1	Solid	mg/m3	10.00	Fullface mask		P3	
Ferric oxide	Fe2O3	1309-37-1	Solid	mg/m3	5.00	Half or Fullface mask		P3	
Ferrocene	C10 H10 Fe	102-54-5	Solid	mg/m3	10.00	Fullface mask	A	P	
Fluoride (as f)	F	16984-48-8	Solid	mg/m3	2.50	Half or Fullface mask	AB	P3	
Fluorine	F2	7782-41-4	Gas	ppm	1	Fullface mask	B		1,55
Fluorine-19	F2	7782-41-4	Gas	ppm	1	Fullface mask	B		1,55
Fluorocarbon-115	CClF2CF3	76-15-3	Gas	ppm	1000	SCBA or Supplied-Air			6,32
Fluorocarbon-22	CHClF2	75-45-6	Gas	ppm	1000	SCBA or Supplied-Air			3,54
Fluorotrichloromethane	CCl3F	75-69-4	Liquid	ppm	1000.00	SCBA or Supplied-Air			5,62
Formal	CH3OCH2OCH3	109-87-5	Liquid	ppm	1000	Fullface mask	AX		3,71
Formaldehyde	HCHO	50-00-0	Liquid	ppm	0,5	Fullface mask	ABE		1,23
Formamide	HCONH2	75-12-7	Liquid	ppm	10	Fullface mask	A	P3	1,85
Formic acid	HCOOH	64-18-6	Liquid	ppm	5.00	Fullface mask	B / BE	P3	1,88
Formonitrile	HCN	74-90-8	Liquid	ppm	2	Fullface mask	B	P3	1,1
Freon® 10	CCl4	56-23-5	Liquid	ppm	2	Fullface mask	A		6,29
Freon® 11	CCl3F	75-69-4	Liquid	ppm	1000.00	SCBA or Supplied-Air			5,62
Freon® 12	CCl2F2	75-71-8	Gas	ppm	1000	SCBA or Supplied-Air			4,95
Freon® 13b1	CBrF3	75-63-8	Gas	ppm	1000	SCBA or Supplied-Air			6,09
Freon® 21	CHCl2F	75-43-4	Gas	ppm	10	SCBA or Supplied-Air			4,21
Freon® 22	CHClF2	75-45-6	Gas	ppm	1000	SCBA or Supplied-Air			3,54
Freon® 112	CCl2FCCl2F	76-12-0	Solid	ppm	500	Fullface mask	A		8,34
Freon® 112a	CCl3CClF2	76-11-9	Solid	ppm	500	Fullface mask	A		8,34
Freon® 113	CCl2FCClF2	76-13-1	Liquid	ppm	1000.00	SCBA or Supplied-Air			7,67
Freon® 114	CClF2CClF2	76-14-2	Gas	ppm	1000	SCBA or Supplied-Air			6,99
Furacarb®	C12H15NO3	1563-66-2	Solid	mg/m3	0,1	Half or Fullface mask	A	P3	
2- Furaldehyde	C5H4O2	98-01-1	Liquid	ppm	2	Fullface mask	A		3,93
2-furancarboxaldehyde	C5H4O2	98-01-1	Liquid	ppm	2	Fullface mask	A		3,93
2,5-Furanedione	C4 H2 O3	108-31-6	Solid	ppm	0,25	Fullface mask	A	P3	4,01
2-Furylmethanol	C5H6O2	98-00-0	Liquid	ppm	10	Fullface mask	A		4,01
G									
Genetron® 12	CCl2F2	75-71-8	Gas	ppm	1000	SCBA or Supplied-Air			4,95
Genetron® 21	CHCl2F	75-43-4	Gas	ppm	10	SCBA or Supplied-Air			4,21
Genetron® 22	CHClF2	75-45-6	Gas	ppm	1000	SCBA or Supplied-Air			3,54
Genetron® 114	CClF2CClF2	76-14-2	Gas	ppm	1000	SCBA or Supplied-Air			6,99
Germane	GeH4	7782-65-2	Gas	ppm	0.20	SCBA or Supplied-Air			3,13
Germanium hydride	GeH4	7782-65-2	Gas	ppm	0.20	SCBA or Supplied-Air			3,13
Germanium tetrahydride	GeH4	7782-65-2	Gas	ppm	0.20	SCBA or Supplied-Air			3,13
Glutaraldehyde	OCH(CH2)3CHO	111-30-8	Liquid	ppm	0,2	Fullface mask	A2	P3	4,09
Glutaric dialdehyde	OCH(CH2)3CHO	111-30-8	Liquid	ppm	0,2	Fullface mask	A2	P3	4,09
Glycerin (anhydrous)	HOCH2CH(OH)CH2OH	56-81-5	Liquid	mg/m3	5	Fullface mask	A	P3	
Glycerol	HOCH2CH(OH)CH2OH	56-81-5	Liquid	mg/m3	5	Fullface mask	A	P3	
Glycerol trinitrate	CH2NO3CHNO3CH2NO3	55-63-0	Liquid	mg/m3	0,1	Half or Fullface mask	A	P3	
Glycidyl phenyl ether	C9H10O2	122-60-1	Liquid	ppm	1.00	Fullface mask	A		6,14
Glycol dibromide	BrCH2CH2Br	106-93-4	Liquid	ppm	0,05	Fullface mask	A		7,69
Glycol dinitrate	O2NOCH2CH2ONO2	628-96-6	Liquid	ppm	0,2	Fullface mask	A	P	6,22
Graphite	C	7440-44-0	Solid	mg/m3	5	Half or Fullface mask		P2/P3	
Guthion®	C10H12O3PS2N3	86-50-0	Solid	mg/m3	0.20	Half or Fullface mask	A	P3	
Gypsum	Ca S O6 H4	10101-41-4	Solid	mg/m3	4.00	Fullface mask		P3	
H									
Hafnium	Hf	7440-58-6	Solid	mg/m3	0.50	Fullface mask		P3	
Halane	C5H6Cl2N2O2	118-52-5	Solid	mg/m3	0,2	Fullface mask	ABEK	P3	
Halon® 112	CHCl2F	75-43-4	Gas	ppm	10	SCBA or Supplied-Air			4,21
Halon® 122	CCl2F2	75-71-8	Gas	ppm	1000	SCBA or Supplied-Air			4,95
Halon® 242	CClF2CClF2	76-14-2	Gas	ppm	1000	SCBA or Supplied-Air			6,99

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H2O = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Halon® 1011	CH2BrCl	74-97-5	Liquid	ppm	200	Fullface mask	A		5,29
Halon® 1301	CBrF3	75-63-8	Gas	ppm	1000	SCBA or Supplied-Air			6,09
Halowax® 1051	C10Cl8	2234-13-1	Solid	mg/m3	0.10	Fullface mask	A	P3	
Helium	He		Gas	ppm		SCBA or Supplied-Air			
Heod	C12H8Cl6O	60-57-1	Solid	mg/m3	0,25	Half or Fullface mask	A	P3	
Heptan- 2- one	CH3CO[CH2]4CH3	110-43-0	Liquid	ppm	100.00	Fullface mask	A		4,67
2-heptanone	CH3CO[CH2]4CH3	110-43-0	Liquid	ppm	100.00	Fullface mask	A		4,67
3-Heptanone	CH3CH2CO[CH2]3CH3	106-35-4	Liquid	ppm	50.00	Fullface mask	A		4,67
1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro- 1,4-endo,endo-5,8-dimethanonaphthalene	C12H8Cl6O	72-20-8	Solid	mg/m3	0,1	Fullface mask		P3	
1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo,exo-5,8-dimethanonaphthalene	C12H8Cl6O	60-57-1	Solid	mg/m3	0,25	Half or Fullface mask	A	P3	
6,7,8,9,10-Hexachloro- 1,5,5a,6,9,9a-hexachloro-6,9-methano-2,4,3-benzo-dioxathiepin-3-oxide	C9H6Cl6O3S	115-29-7	Solid	mg/m3	0,1	Fullface mask	A	P3	
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-endo-1,4-exo-5,8-dimethanonaphthalene	C12H8Cl6	309-00-2	Solid	mg/m3	0.25	Half or Fullface mask	AB	P3	
Hexachlorobenzene	C6 Cl6	118-74-1	Solid	mg/m3	0,03	Fullface mask	A	P3	
Hexadrin®	C12H8Cl6O	72-20-8	Solid	mg/m3	0,1	Fullface mask		P3	
Hexahydroaniline	C6H11NH2	108-91-8	Liquid	ppm	10	Half or Fullface mask	A		4,06
Hexahydrocresol	CH3C6H10OH	25639-42-3	Liquid	ppm	50.00	Fullface mask	A		4,67
Hexahydromethylphenol	CH3C6H10OH	25639-42-3	Liquid	ppm	50.00	Fullface mask	A		4,67
Hexahydrotoluene	CH3C6H11	108-87-2	Liquid	ppm	400	Half or Fullface mask	A		4,02
Hexalin	C6H11OH	108-93-0	Liquid	ppm	50	Fullface mask	A		4,1
Hexamethyl phosphoramide	[(CH3) 2N] 3PO	680-31-9	Liquid			SCBA or Supplied-Air			
Hexamethylphosphoric triamide	[(CH3) 2N] 3PO	680-31-9	Liquid			SCBA or Supplied-Air			
Hexane	CH3[CH2]4CH3	110-54-3	Liquid	ppm	50.00	Half or Fullface mask	A		3,53
1,6- hexanolactam	C6H11NO	105-60-2	Solid	ppm	0,22	Fullface mask	A	P3	4,63
Hexone	CH3COCH2CH(CH3)2	108-10-1	Liquid	ppm	50.00	Fullface mask	A		2,05
Hhdn	C12H8Cl6	309-00-2	Solid	mg/m3	0.25	Half or Fullface mask	AB	P3	
Hydrated lime	Ca(OH)2	1305-62-0	Solid	mg/m3	5	Half or Fullface mask		P3	
Hydrazine	H2NNH2	302-01-2	Liquid	ppm	0,1	Fullface mask	K	P3	0,1
Hydrazinobenzene	C6H5NHNH2	100-63-0	Liquid	ppm	0,14	Half or Fullface mask	A	P3	4,42
Hydrazobenzene	CH3NHNH2	60-34-4	Solid	ppm	0,04	Fullface mask	AK	P3	1,89
Hydrazoic acid (as vapour)	H N3	7782-79-8	Liquid	ppm	0.10	Fullface mask	K	P3	
Hydrocyanic acid	HCN	74-90-8	Liquid	ppm	2	Fullface mask	B	P3	1,1
Hydrogen	H2	1333-74-0 ?	Gas	ppm		SCBA or Supplied-Air			
Hydrogen arsenide	AsH3	7784-42-1	Liquid	ppm	0,05	SCBA or Supplied-Air			3,19
Hydrogen bromide	H Br	10035-10-6	Gas	ppm	3.00	Fullface mask	B	P3	3,31
Hydrogen carboxylic acid	HCOOH	64-18-6	Liquid	ppm	5.00	Fullface mask	B / BE	P3	1,88
Hydrogen chloride	H Cl	7647-01-0	Gas	ppm	5	Fullface mask	B	P3	1,49
Hydrogen cyanide	HCN	74-90-8	Liquid	ppm	2	Fullface mask	B	P3	1,1
Hydrogen fluoride (as f)	H F	7664-39-3	Liquid	ppm	3.00 (ST)	Fullface mask	B 450	P3	0,82
Hydrogen nitrate	HNO3	7697-37-2	Liquid	ppm	2.00	Fullface mask	B/BE/NO	P3	2,58
Hydrogen peroxide	H2O2	7722-84-1	Liquid	ppm	1.00	Fullface mask	ABEK NO	P3	1,39
Hydrogen phosphide	PH3	7803-51-2	Gas	ppm	0,1	Fullface mask	B		1,39
Hydrogen selenide (as se)	H2 Se	7783-07-5	Gas	ppm	0.05	SCBA or Supplied-Air			3,31
Hydrogen sulfate	H2SO4	7664-93-9	Liquid	mg/m3	1.00	Fullface mask	BE 450	P3	
Hydrogen sulphide	H2 S	7783-06-4	Gas	ppm	10.00	Fullface mask	B		1,4
Hydroquinone	C6H4(OH)2	123-31-9	Solid	mg/m3	2.00	Fullface mask	A	P3	
Hydroquinone monomethyl ether	CH3OC6H4OH	150-76-5	Solid	mg/m3	5.00	Fullface mask		P3	
Hydrosulfuric acid	H2 S	7783-06-4	Gas	ppm	10.00	Fullface mask	B		1,4
Hydrous magnesium silicate	Mg3Si4O10(OH)2	14807-96-6	Solid	mg/m3	2	Fullface mask		P3	
4- Hydroxy- 4- methyl- pentan- 2- one	CH3COCH2C(CH3)2OH	123-42-2	Liquid	ppm	50.00	Fullface mask	A		4,75
4-Hydroxy-4-Methyl-2-Pentanone	CH3COCH2C(CH3)2OH	123-42-2	Liquid	ppm	50.00	Fullface mask	A		4,75
4-Hydroxy-3-(3-oxo-1-phenyl butyl)-2H-1-benzopyran-2-one	C19H16O4	81-81-2	Solid	mg/m3	0.10	Half or Fullface mask		P2/P3	
3-Hydroxy-propionic acid	C3H4O2	57-57-8	Liquid			SCBA or Supplied-Air			
Hydroxybenzene	C6H5OH	108-95-2	Solid	ppm	5.00	Fullface mask	A	P3	3,85
1-Hydroxybutane	CH3CH2CH2CH2OH	71-36-3	Liquid	ppm	50	Fullface mask	A		3,03
Hydroxycellulose	(C6H10O5)n	9004-34-6	Solid	mg/m3	5	Half or Fullface mask		P3	
2-Hydroxyethylamine	NH2CH2CH2OH	141-43-5	Liquid	ppm	3.00	Fullface mask	A		2,66
2-hydroxymethylfuran	C5H6O2	98-00-0	Liquid	ppm	10	Fullface mask	A		4,01

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H2O = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
3-hydroxyphenol	C6H4(OH)2	108-46-3	Solid	ppm	10.00	Fullface mask	A	P3	4,5
2- hydroxypropyl acrylate	CH2=CHCOOCH2CHOHCH3	999-61-1	Liquid	ppm	0.50	Fullface mask	A		5,33
2-Hydroxytriethylamine	(C2H5)2NCH2CH2OH	100-37-8	Liquid	ppm	10	Fullface mask	K		4,79
Hyponitrous acid anhydride	N2 O	10024-97-2	Gas	ppm	25	Fullface mask	NO		1,8
I									
2,2'- iminodiethanol	(HOCH2CH2)2NH	111-42-2	Solid	ppm	3.00	Fullface mask	K	P3	4,3
Impure corundum	Al2O3	1302-74-5	Solid	mg/m3	5	Half or Fullface mask		P3	
Indene	C9 H8	95-13-6	Liquid	ppm	10.00	Fullface mask	A		4,75
Indium and compounds (as in)	In	7440-74-6	Solid	mg/m3	0.10	Fullface mask		P3	
Indonaphthene	C9 H8	95-13-6	Liquid	ppm	10.00	Fullface mask	A		4,75
Iodine	I2	7553-56-2	Solid	ppm	0,1	Fullface mask	IPR	P3	10,38
Iodoform	CHI3	75-47-8	Solid	ppm	0,6	Fullface mask	A		16,1
Iodomethane	CH3I	74-88-4	Liquid	ppm	VLE=2	Fullface mask	AX		5,8
Ipa	(CH3)2CHOH	67-63-0	Liquid	ppm	400.00	Fullface mask	A		2,46
IPA	(CH3)2CHOH	67-63-0	Liquid	ppm	400.00	Fullface mask	A		2,46
Ipdi	C12H18N2O2	4098-71-9	Liquid	ppm	VLE=0,01	Fullface mask	A		9,09
Iron (III) oxide	Fe2O3	1309-37-1	Solid	mg/m3	5.00	Half or Fullface mask		P3	
Iron carbonyl, Pentacarbonyl iron	Fe(CO)5	13463-40-6	Liquid	ppm	0.01	Fullface mask	A	P3	2,28
Iron oxide, fume (as fe)	Fe2O3	1309-37-1	Solid	mg/m3	5.00	Half or Fullface mask		P3	
Iron pentacarbonyl	Fe(CO)5	13463-40-6	Liquid	ppm	0.01	Fullface mask	A	P3	2,28
Isobutanol	(CH3)2CHCH2OH	78-83-1	Liquid	ppm	50.00	Fullface mask	A		3,03
Isobutenyl methyl ketone	(CH3)2C=CHCOCH3	141-79-7	Liquid	ppm	10	Fullface mask	A		3,02
Isobutyl methyl ketone	CH3COCH2CH(CH3)2	108-10-1	Liquid	ppm	50.00	Fullface mask	A		2,05
3-Isocyanatomethyl 3,5,5-trimethylcyclohexyl-isocyanate	C12H18N2O2	4098-71-9	Liquid	ppm	VLE=0,01	Fullface mask	A		9,09
Isoflurane	C3 F5 H2 Cl O	26675-46-7	Liquid	ppm	50.00	SCBA or Supplied-Air			
Iso-nitropropane	(CH3)2CH(NO2)	79-46-9	Liquid	ppm	10	Fullface mask	A	P3	3,64
Isophorone diamine diisocyanate	C12H18N2O2	4098-71-9	Liquid	ppm	VLE=0,01	Fullface mask	A		9,09
Isophorone diisocyanate	C12H18N2O2	4098-71-9	Liquid	ppm	VLE=0,01	Fullface mask	A		9,09
2-Isopropoxy propane	(CH3)2CHOCH(CH3)2	108-20-3	Liquid	ppm	500	Fullface mask	A		4,18
Isopropyl chloroformate	C4H7ClO2/(CH3)2CHOCOCl	108-23-6	Liquid	ppm	? 1.00	Fullface mask	A	P3	
Isovalerone	[(CH3)2CHCH2]2CO	108-83-8	Liquid	ppm	25	Fullface mask	A		5,82
J									
Jasmolin I or II	C20H28O3 / C21H28O5 C21H30O3 / C22H30O5 C21H28O3 / C22H28O5	8003-34-7	Solid	mg/m3	5.00	Fullface mask	A	P3	
K									
Kalpur-p / Liparon	C4H11NO/(CH3)2NCH2CH2OH	108-01-0	Liquid	ppm	? 2	Fullface mask	A		
Kaolin	(Al2Si2O5(OH)4)2	1332-58-7	Solid	mg/m3	5.00	Half or Fullface mask		P3	
Karmex®	C6H3Cl2NHCON(CH3)2	330-54-1	Solid	mg/m3	10	Half or Fullface mask		P3	
Keto-ethylene	CH2=CO	463-51-4	Gas	ppm	0.50	SCBA or Supplied-Air			1,72
Ketone propane	(CH3)2CO	67-64-1	Liquid	ppm	750	Fullface mask	AX		2,38
L									
L, 2-Methylcyclopentadienyl manganese tricarbonyl,	CH3C5H4Mn(CO)3	12108-13-3	Liquid	mg/m3	0.20	Fullface mask	A	P3	
Lannate®	CH3C(SCH3)NOC(O)NHCH3	16752-77-5	Solid	mg/m3	2.50	Fullface mask		P3	
Lead and compounds (except lead alkyls)	Pb	7439-92-1	Solid	mg m3	0,15	Fullface mask		P3	
Lepidolite	n/ a	12001-26-2	Solid	mg/m3	3	Half or Fullface mask		P3	
Lime	CaO	1305-78-8	Solid	mg/m3	2	Fullface mask		P2/P3	
Lindane	C6H6Cl6	58-89-9	Solid	mg/m3	0.10	Fullface mask	B	P3	
Lithium hydride*	LiH	7580-67-8	Solid	mg/m3	0.025	Fullface mask	A	P3	
Lithium hydroxide	LiOH	1310-65-2	Solid	mg/m3	1.00 (ST)	Fullface mask		P3	
Lithium monohydride*	LiH	7580-67-8	Solid	mg/m3	0,025	Fullface mask	A	P3	
Lpg (Liquefied Petroleum Gas)	Mix: C3 H6; C3 H8; C4 H8; C4 H10	68476-85-7	Gas	ppm	1000.00	SCBA or Supplied-Air			

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H2O = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Lye	NaOH	1310-73-2	Solid	mg/m3	2.00 (ST)	Fullface mask		P3	
M									
Ma	C6H5NHCH3	100-61-8	Liquid	ppm	0.50	Half or Fullface mask	A		4,38
Mace®	C6H5COCH2Cl	532-27-4	Solid	ppm	0,3	Fullface mask	ABEK	P3	6,32
Magnesite	MgCO3	546-93-0	Solid	mg/m3	5	Half or Fullface mask		P3	
Magnesium carbonate	MgCO3	546-93-0	Solid	mg/m3	5	Half or Fullface mask		P3	
Magnesium oxide, fume and dust (as mg)	MgO	1309-48-4	Solid	mg/m3	15.00	Half or Fullface mask		P3	
Malathion (iso)	C10H19O6PS2	121-75-5	Liquid	mg/m3	10.00	Fullface mask	A	P3	
Manganese and compounds (as mn)	Mn	7439-96-5	Solid	mg/m3	1	Half or Fullface mask		P2/P3	
Manganese cyclopentadienyl tricarbonyl	C5H5Mn(CO)3	12079-65-1	Solid	mg/m3	0,1	Half or Fullface mask	A	P3	
Manganese tetroxide	Mn3O4	1317-35-7	Solid	mg/m3	1.00	Half or Fullface mask		P3	
Manganese tricarbonylmethylcyclopentadieny	CH3C5H4Mn(CO)3	12108-13-3	Liquid	mg/m3	0.20	Fullface mask	A	P3	
Manganese, fume (as mn)	Mn	7439-96-5	Solid	mg/m3	1	Half or Fullface mask		P2/P3	
Manganomanganic oxide	Mn3O4	1317-35-7	Solid	mg/m3	1.00	Half or Fullface mask		P3	
Margarite	n/ a	12001-26-2	Solid	mg/m3	3	Half or Fullface mask		P3	
MBK	CH3CO[CH2]3CH3	591-78-6	Liquid	ppm	5	Fullface mask	A		4,1
Mbk	CH3CO[CH2]3CH3	591-78-6	Liquid	ppm	5	Fullface mask	A		4,1
MbOCA	CH2(C6H4ClNH2)2	101-14-4	Solid	mg/m3	0	Fullface mask	A	P3	
MD	C5H5Mn(CO)3	12079-65-1	Solid	mg/m3	0,1	Half or Fullface mask	A	P3	
MDA	CH2(C6H4NH2)2	101-77-9	Solid	ppm	0,01	Fullface mask	A	P3	
Mdi	CH2(C6H4NCO)3	101-68-8	Solid	ppm	0,01	Fullface mask	A	P3	10,24
Mecrylate	CH2=C(CN)COOCH3	137-05-3	Liquid	ppm	2	Fullface mask	A	P3	4,54
2-Mercaptoacetic acid	HSCH2COOH	68-11-1	Liquid	ppm	1.00	Fullface mask	A2B2	P3	3,77
Mercaptomethane	CH3SH	74-93-1	Gas	ppm	0,5	Fullface mask	AXB		1,97
Mercury & its inorganic divalent compounds	Hg	7439-97-6	Liquid	mg/m3	0,05	Half or Fullface mask	Hg	P3	
Mesitylene	C6H3(CH3)3	108-67-8	Liquid	ppm	25.00	Fullface mask	A		4,92
Metallum problematum	Te	13494-80-9	Solid	mg/m3	0.10	Half or Fullface mask		P2/P3	
Methacrylate monomer	CH2=C(CH3)COOCH3	80-62-6	Liquid	ppm	100.00	Fullface mask	A		4,09
Methanal	HCHO	50-00-0	Liquid	ppm	0,5	Fullface mask	ABE		1,23
Methanamide	HCONH2	75-12-7	Liquid	ppm	10	Fullface mask	A	P3	1,85
Methane	C H4	74-82-8	Gas	ppm		SCBA or Supplied-Air			
Methane tetrabromide	CBr4	558-13-4	Solid	mg/m3	1,4	Half or Fullface mask	A		13,57
Methane tetramethylol	C(CH2OH)4	115-77-5	Solid	mg/m3	5.00	Fullface mask	A	P3	
Methane trichloride	CHCl3	67-66-3	Liquid	ppm	2	Fullface mask	AX		4,88
Methanethiol	CH3SH	74-93-1	Gas	ppm	0,5	Fullface mask	AXB		1,97
Methanol	CH3OH	67-56-1	Liquid	ppm	200.00	Fullface mask	AX		1,31
Methomyl (iso)	CH3C(SCH3)NOC(O)NHCH3	16752-77-5	Solid	mg/m3	2.50	Fullface mask		P3	
1-Methoxy-2-propanol	CH3OCH2CHCH3	107-98-2	Liquid	ppm	100.00	Fullface mask	A		3,69
Methoxycarbonylethylene	CH2=CHCOOCH3	96-33-3	Liquid	ppm	10.00	Fullface mask	A		3,52
Methoxy-dtt	(C6H4OCH3)2CHCCl3	72-43-5	Solid	mg/m3	15	Half or Fullface mask	A	P3	
2-methoxyethanol	CH3OCH2CH2OH	109-86-4	Liquid	ppm	5	Fullface mask	A		3,11
2- Methoxyethyl acetate	CH3COOCH2CH2OCH3	110-49-6	Liquid	ppm	0,1	Fullface mask	A		4,83
1- methoxypropan- 2- ol	CH3OCH2CHCH3	107-98-2	Liquid	ppm	100.00	Fullface mask	A		3,69
Methyl acetate	CH3COOCH3	79-20-9	Liquid	ppm	200.00	Fullface mask	AX		3,03
Methyl alpha-cyanoacrylate	CH2=C(CN)COOCH3	137-05-3	Liquid	ppm	2	Fullface mask	A	P3	4,54
1-Methyl-2-aminobenzene	CH3C6H4NH2	95-53-4	Liquid	ppm	2	Fullface mask	A	P3	4,38
Methyl amyl alcohol	(CH3)2CHCH2CH(OH)CH3	108-11-2	Liquid	ppm	25.00	Fullface mask	A		4,18
Methyl benzene	C6H5CH3	108-88-3	Liquid	ppm	100	Fullface mask	A		3,77
Methyl benzol	C6H5CH3	108-88-3	Liquid	ppm	100	Fullface mask	A		3,77
Methyl bromide	CH3Br	74-83-9	Gas	ppm	5	Fullface mask	AX		3,86
3-Methyl-1-butanol acetate	CH3COOCH2CH2CH(CH3)2	123-92-2	Liquid	ppm	100	Half or Fullface mask	A		5,33
Methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate	C14H18N4O3	17804-35-2	Solid	mg/m3	5	Half or Fullface mask	A	P3	
Methyl chloride	CH3Cl	74-87-3	Gas	ppm	100	SCBA or Supplied-Air			2,07
Methyl- 2- cyanoacrylate	CH2=C(CN)COOCH3	137-05-3	Liquid	ppm	2	Fullface mask	A	P3	4,54
4-Methyl-2,6-di-tert-butyl phenol	[C(CH3)3]2CH3C6H2OH	128-37-0	Solid	mg/m3	10	Fullface mask		P	
2- Methyl- 4,6-Dinitrophenol	CH3C6H2OH(NO2)2	534-52-1	Solid	mg/m3	0.20	Half or Fullface mask		P3	
3-Methyl-5-heptanone	C2H5COCH2CH(CH3)CH2CH3	541-85-5	Liquid	ppm	25.00	Fullface mask	A		5,24
5-Methyl-2-hexanone	CH3COCH2CH2CH(CH3)2	110-12-3	Liquid	ppm	50.00	Fullface mask	A		4,67
Methyl ester of formic acid	HCOOCH3	107-31-3	Liquid	ppm	100.00	Fullface mask	AX		2,46
Methyl ester of isocyanic acid	CH3NCO	624-83-9	Liquid	mg/m3	VLE=0,02	Fullface mask	B	P3	2,5
Methyl ethyl carbinol	CH3CH(OH)CH2CH3	78-92-2	Liquid	ppm	100	Fullface mask	A		3,03

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H20 = H20**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Methyl ethylene oxide	C3H6O	75-56-9	Liquid	ppm	100	Fullface mask	AX 450		2,36
Methyl isocyanate	CH3NCO	624-83-9	Liquid	mg/m3	VLE=0,02	Fullface mask	B	P3	2,5
Methyl orthosilicate	(CH3O)4Si	681-84-5	Liquid	ppm	1.00	Fullface mask	A		6,23
Methyl parathion	(CH3O)2P(S)OC6H4NO2	298-00-0	Solid	mg/m3	0.20	Fullface mask	A2	P3	
2-Methyl-2-Pentanol-4-One	CH3COCH2C(CH3)2OH	123-42-2	Liquid	ppm	50.00	Fullface mask	A		4,75
4-Methyl-3-penten-2-one	(CH3)2C=CHCOCH3	141-79-7	Liquid	ppm	10	Fullface mask	A		3,02
Methyl phosphite	(CH3O)3P	121-45-9	Liquid	ppm	2.00	Fullface mask	A	P3	5,08
Methyl propenoate	CH2=CHCOOCH3	96-33-3	Liquid	ppm	10.00	Fullface mask	A		3,52
Methyl propyl ketone	CH3COCH2CH2CH3	107-87-9	Liquid	ppm	200.00	Fullface mask	A		3,52
1- Methyl- 2- pyrrolidone	C5 H9 N O	872-50-4	Liquid	ppm	25.00	Half or Fullface mask	A	P3	
3-(1-Methyl-2-pyrrolidyl)pyridine	C5H4NC4H7NCH3	54-11-5	Liquid	mg/m3	0.50	Half or Fullface mask	A	P3	
Methyl sulfhydrate	CH3SH	74-93-1	Gas	ppm	0,5	Fullface mask	AXB		1,97
METHYL- t- BUTYL ETHER	C5 H12 O	1634-04-4	Liquid	ppm	25.00	Fullface mask	AX	P3	0,28
METHYL- tert- BUTYL ETHER	C5 H12 O	1634-04-4	Liquid	ppm	25.00	Fullface mask	AX	P3	0,28
Methyl tribromide	CHBr3	75-25-2	Liquid	ppm	0,5	Fullface mask	A		10,34
2-Methylacrylic acid	CH2=C(CH3)COOH	79-41-4	Liquid	ppm	20.00	Fullface mask	A	P3	3,52
Methylamine	CH3NH2	74-89-5	Gas	ppm	10.00	Fullface mask	K		1,27
Methylamine (anhydrous)	CH3NH2	74-89-5	Gas	ppm	10.00	Fullface mask	K		1,27
(Methylamino)benzene	C6H5NHCH3	100-61-8	Liquid	ppm	0.50	Half or Fullface mask	A		4,38
2-Methylaniline	CH3C6H4NH2	95-53-4	Liquid	ppm	2	Fullface mask	A	P3	4,38
2- Methylaziridine	C3H7N	75-55-8	Liquid	ppm	2	Fullface mask	K	P3	2,34
2- Methylcyclohexanone	CH3C6H9O	583-60-8	Liquid	ppm	50.00	Fullface mask	A		4,59
2-Methylethyleneimine	C3H7N	75-55-8	Liquid	ppm	2	Fullface mask	K	P3	2,34
2-methylnitrobenzene	NO2C6H4CH3	88-72-2	Liquid	ppm	2	Fullface mask	A	P3	5,61
5-Methylheptan- 3- one	C2H5COCH2CH(CH3)CH2CH3	541-85-5	Liquid	ppm	25.00	Fullface mask	A		5,24
3- Methylbutan- 1- ol	(CH3)2CHCH2CH2OH	123-51-3	Liquid	ppm	100.00	Fullface mask	A		3,61
1-Methylbutyl acetate	CH3COOCH(CH3)C3H7	626-38-0	Liquid	ppm	125	Fullface mask	A		5,33
Methylcyclohexane	CH3C6H11	108-87-2	Liquid	ppm	400	Half or Fullface mask	A		4,02
Methylcyclohexanol	CH3C6H10OH	25639-42-3	Liquid	ppm	50.00	Fullface mask	A		4,67
Methylene bis(4-phenyl isocyanate)	CH2(C6H4NCO)3	101-68-8	Solid	ppm	0,01	Fullface mask	A	P3	10,24
Methylene chloride	CH2Cl2	75-09-2	Liquid	ppm	50	Fullface mask	AX		3,47
4,4'- methylene- diphenyl diisocyanate	CH2(C6H4NCO)2	101-68-8	Liquid	ppm	0,01	Fullface mask	A	P3	10,24
4,4'- Methylenebis-(2- chloroaniline)	CH2(C6H4ClNH2)2	101-14-4	Solid	mg/m3	0	Fullface mask	A	P3	
4,4'- Methylenedianiline (mda)	CH2(C6H4NH2)2	101-77-9	Solid	ppm	0,01	Fullface mask	A	P3	
Methylene oxide	HCHO	50-00-0	Liquid	ppm	0,5	Fullface mask	ABE		1,23
Methylisoamyl acetate	C8 H16 O2	108-84-9	Liquid	ppm	50	Fullface mask	A		5,9
4- methylpent- 3- en- 2- one	(CH3)2C=CHCOCH3	141-79-7	Liquid	ppm	10	Fullface mask	A		3,02
4- methylpentan- 2- ol	(CH3)2CHCH2CH(OH)CH3	108-11-2	Liquid	ppm	25.00	Fullface mask	A		4,18
4- Methylpentan- 2- One	CH3COCH2CH(CH3)2	108-10-1	Liquid	ppm	50.00	Fullface mask	A		2,05
2- Methylpentane- 2,4- diol	(CH3)2COHCH2CHOHCH3	107-41-5	Liquid	ppm	25.00	Half or Fullface mask	A		4,83
Methylphenylamine,	C6H5NHCH3	100-61-8	Liquid	ppm	0.50	Half or Fullface mask	A		4,38
2- Methylpropan- 1- ol	(CH3)2CHCH2OH	78-83-1	Liquid	ppm	50.00	Fullface mask	A		3,03
2- methylpropan- 2- ol	(CH3)3COH	75-65-0	Liquid	ppm	100.00	Fullface mask	A		3,03
2-methylpropenenitrile	CH2=C(CH3)CN	126-98-7	Liquid	ppm	1.00	Fullface mask	AB 450	P3	2,74
1-Methylpropyl acetate	CH3COOCH(CH3)CH2CH3	105-46-4	Liquid	ppm	200	Half or Fullface mask	A	P3	4,75
2-Methylpropyl acetate	CH3COOCH2CH(CH3)2	110-19-0	Liquid	ppm	150.00	Fullface mask	A		4,75
2-Methylpropyl ester of acetic acid	CH3COOCH2CH(CH3)2	110-19-0	Liquid	ppm	150.00	Fullface mask	A		4,75
2-(1-Methylpropyl)phenol	CH3CH2CH(CH3)C6H4OH	89-72-5	Liquid	ppm	5	Fullface mask	A		6,14
Methylstyrene	CH2=CHC6H4CH3	25013-15-4	Liquid	ppm	100.00	Fullface mask	A		4,83
Mevinphos (iso)	C7H13PO6	7786-34-7	Liquid	ppm	0.01	Fullface mask	A	P3	9,17
Miak	CH3COCH2CH2CH(CH3)2	110-12-3	Liquid	ppm	50.00	Fullface mask	A		4,67
Mibc	(CH3)2CHCH2CH(OH)CH3	108-11-2	Liquid	ppm	25.00	Fullface mask	A		4,18
Mic	CH3NCO	624-83-9	Liquid	mg/m3	VLE=0,02	Fullface mask	B	P3	2,5
Mikb	CH3COCH2CH(CH3)2	108-10-1	Liquid	ppm	50.00	Fullface mask	A		2,05
MMH	CH3NHNH2	60-34-4	Solid	ppm	0,04	Fullface mask	AK	P3	1,89
Molybdenum compounds (as mo)	Mo	7439-98-7	Solid	mg/m3	5.00	Fullface mask		P3	
Monobromoethylene	CH2=CHBr	593-60-2	Gas	ppm	5	Half or Fullface mask	AX		4,38
Monochloroacetic acid	ClCH2COOH	79-11-8	Liquid	ppm	0.30	Fullface mask	A	P3	
Monochloropentafluoroethane	CClF2CF3	76-15-3	Gas	ppm	1000	SCBA or Supplied-Air			6,32
Monoethylamine	CH3CH2NH2	75-04-7	Liquid	ppm	10	Fullface mask	K		1,85
Monofluorotrichloromethane	CCl3F	75-69-4	Liquid	ppm	1000.00	SCBA or Supplied-Air			5,62

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H20 = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Mononitrogen monoxide	N O	10102-43-9	Gas	ppm	25.00	SCBA or Supplied-Air			1,23
Monophenylhydrazine	C6H5NHNH2	100-63-0	Liquid	ppm	0,14	Half or Fullface mask	A	P3	4,42
Monosilane	SiH4	7803-62-5	Gas	ppm	5	SCBA or Supplied-Air			1,31
Monoxide	CO	630-08-0	Gas	ppm	30	SCBA or Supplied-Air			
Morpholine	C4H9ON	110-91-8	Liquid	ppm	20.00	Fullface mask	A		3,56
MPK	CH3COCH2CH2CH3	107-87-9	Liquid	ppm	200.00	Fullface mask	A		3,52
N									
N-Butyl acetate	CH3COO[CH2]3CH3	123-86-4	Liquid	ppm	150	Fullface mask	A		4,75
N- Butyl chloroformate	C5 H10 CL O2	592-34-7	Liquid	ppm	1	Fullface mask	A	P3	
N- butylamine	CH3CH2CH2CH2NH2	109-73-9	Liquid	ppm	5	Fullface mask	BK		2,99
N- butylglycidyl ether	C7 H14 O2	6/08/26	Liquid	ppm	5,6	Fullface mask	A		5,33
N-Ethylethanamine	(C2H5)2NH	109-89-7	Liquid	ppm	10	Fullface mask	K + 450		2,99
N-Ethylmorpholine	C6 H13 N O	100-74-3	Liquid	ppm	5.00	Fullface mask	A	P3	4,71
N-Methyl-N-nitroso-methanamine	(CH3)2N2O	62-75-9	Liquid			Fullface mask	A	P3	
N-(1-Methylethyl)-2-propanamine	[(CH3)2CH]2NH	108-18-9	Liquid	ppm	5	Fullface mask	K		4,14
N-methylmethanamine	(CH3)2NH	124-40-3	Gas	ppm	10	Fullface mask	K		1,85
N-Nitroso-N,N-dimethylamine	(CH3)2N2O	62-75-9	Liquid			Fullface mask	A	P3	
N-octane	CH3[CH2]6CH3	111-65-9	Liquid	mg/m3	75	Fullface mask	A		4,67
N-phenylmethylamine	C6H5NHCH3	100-61-8	Liquid	ppm	0.50	Half or Fullface mask	A		4,38
N-propane	CH3CH2CH3	74-98-6	Gas	ppm	1000	SCBA or Supplied-Air			1,8
N- propyl acetate	CH3COOCH2CH2CH3	109-60-4	Liquid	ppm	200.00	Fullface mask	A		4,18
N-((1,1,2,2-Tetrachloroethyl)thio)-4-cyclohexene-1,2-dicarboximide	C10H9Cl14NO2S	1/06/25	Solid	mg/m3	0,1	Fullface mask	A		
N-Trichloromethylmercapto-4-cyclohexene 1,2-dicarboximide	C9H8Cl3NO2S	133-06-2	Solid	mg/m3	5	Half or Fullface mask	A	P3	
N, N- >Dimethylacetamide	CH3CON(CH3)2	127-19-5	Liquid	ppm	10	Half or Fullface mask	A		3,56
N,N'-Dimethyl-4,4'-bipyridinium dichloride	CH3(C5H4N)2CH3 • 2Cl	1910-42-5	Solid	mg/m3	0,1	Fullface mask	A	P3	
N, n- dimethylaniline	C6H5N(CH3)2	121-69-7	Liquid	ppm	5	Fullface mask	A	P3	4,96
N,N-Dimethylbenzeneamine	C6H5N(CH3)2	121-69-7	Liquid	ppm	5	Fullface mask	A	P3	4,96
N,N-Dimethylcarbamoyl chloride	(CH3)2NCOCl	79-44-7	Liquid			SCBA or Supplied-Air			
N,n-dimethylformamide	HCON(CH3)2	68-12-2	Liquid	ppm	10	Fullface mask	A		2,99
N,n-dimethylmethanamine	(CH3)3N	75-50-3	Gas	ppm	10.00	Fullface mask	K		2,42
Naled	(CH3O)2P(O)OCHBrCBrCl2	300-76-5	Solid	mg/m3	3	Fullface mask	A	P3	
Naphthalene	C10H8	91-20-3	Solid	ppm	10	Fullface mask	A	P3	5,24
1-Naphthyl N-Methyl-carbamate	CH3NHCOOC10H7	63-25-2	Solid	mg/m3	5	Half or Fullface mask	A		
Natural aluminum oxide	Al2O3	1344-28-1	Solid	mg/m3	5	Half or Fullface mask		P3	
Navadel®	C4H6O2[SPS(OC2H5)2]2	78-34-2	Liquid	mg/m3	0,2	Fullface mask	A	P3	
Neon	Ne	7440 01 9	Gas	ppm		SCBA or Supplied-Air			
Ng	CH2NO3CHNO3CH2NO3	55-63-0	Liquid	mg/m3	0,1	Half or Fullface mask	A	P3	
Nickel and inorganic compounds	Ni	7440-02-0	Solid	mg/m3	1	Half or Fullface mask		P3	
Nickel carbonyl	Ni(CO)4	13463-39-3	Liquid	ppm	0.10 (ST)	SCBA or Supplied-Air			
Nickel tetracarbonyl	Ni(CO)4	13463-39-3	Liquid	ppm	0.10 (ST)	SCBA or Supplied-Air			
Nicotine	C5H4NC4H7NCH3	54-11-5	Liquid	mg/m3	0.50	Half or Fullface mask	A	P3	
Nitrapyrin	ClC5H3NCCl3	1929-82-4	Solid	mg/m3	5	Fullface mask	AB	P3	
Nitric oxide	N O	10102-43-9	Gas	ppm	25.00	SCBA or Supplied-Air			1,23
4-Nitroaniline	C6 H6 N2 O2	100-01-6	Solid	mg/m3	6.00	Fullface mask	A	P3	
2- nitronaphthalene	C10H7NO2	581-89-5	Solid			Half or Fullface mask	A	P	
Nitrobenzene	C6H5NO2	98-95-3	Liquid	ppm	1.00	Fullface mask	A	P3	5,04
Nitrocarbol	CH3NO2	75-52-5	Liquid	ppm	100.00	Fullface mask	A	P3	2,5
4-nitrochlorobenzene	ClC6H4NO2	100-00-5	Solid	mg/m3	1	Fullface mask	AB	P3	
Nitrochloroform	CCl3NO2	76-06-2	Liquid	ppm	0,1	Fullface mask	A	P3	6,72
Nitroetan	CH3CH2NO2	79-24-3	Liquid	ppm	100.00	Fullface mask	A	P3	3,07
Nitroethane	CH3CH2NO2	79-24-3	Liquid	ppm	100.00	Fullface mask	A	P3	3,07
Nitrogen	N2	7727-37-9	Gas	ppm		SCBA or Supplied-Air			
Nitrogen dioxide	N O2	10102-44-0	Gas	ppm	3	Fullface mask	NO		1,88
Nitrogen fluoride	NF3	7783-54-2	Gas	ppm	10.00	SCBA or Supplied-Air			2,9
Nitrogen monoxide	N O	10102-43-9	Gas	ppm	25.00	SCBA or Supplied-Air			1,23
Nitrogen peroxide	N O2	10102-44-0	Gas	ppm	3	Fullface mask	NO		1,88
Nitrogen trifluoride	NF3	7783-54-2	Gas	ppm	10.00	SCBA or Supplied-Air			2,9
Nitropropane	CH3CH2CH2NO2	108-03-2	Liquid	ppm	25.00	Fullface mask	A	P3	3,64
2- Nitropropane	(CH3)2CH(NO2)	79-46-9	Liquid	ppm	10	Fullface mask	A	P3	3,64

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air - semi-developed chemical formula: H20 = H20**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
2-Nitrotoluene	NO2C6H4CH3	88-72-2	Liquid	ppm	2	Fullface mask	A	P3	5,61
Nn- dimethylethylamine	C4 H11 N	598-56-1	Liquid	ppm	5	Fullface mask	K	P3	3
NN- Dimethylethylamine	C4 H11 N	598-56-1	Liquid	ppm	5	Fullface mask	K	P3	3
Nn- dimethylhydrazine	(CH3)2NNH2	57-14-7	Liquid	ppm	0,06	Fullface mask	K 450		2,46
Nonyphenols	C15H24O	25154-52-3	Liquid			Fullface mask	A	P3	
1-np	CH3CH2CH2NO2	108-03-2	Liquid	ppm	25.00	Fullface mask	A	P3	3,64
2-np	(CH3)2CH(NO2)	79-46-9	Liquid	ppm	10	Fullface mask	A	P3	3,64
Nux vomica	C21H22N2O2	57-24-9	Solid	mg/m3	0.15	Fullface mask		P3	
O									
O- acetylsalicylic acid	CH3COOC6H4COOH	50-78-2	Solid	mg/m3	5.00	Half or Fullface mask		P2/P3	
O,O-Diethyl O-3,5,6-trichloro-2-pyridyl phosphorothioate	C9H11Cl3NO3PS	2921-88-2	Solid	mg/m3	0,2	Half or Fullface mask	A	P3	
O,O-Diethyl S-(ethylthio) methylphosphorodithioate	(C2H5O)2P(S)SCH2SC2H5	298-02-2	Liquid	mg/m3	0.05	Fullface mask	A	P3	
O,O-Diethyl S-2-(ethylthio)-ethyl phosphorodithioate	C8H19O2PS3	298-04-4	Liquid	mg/m3	0,1	Fullface mask	ABE	P3	
O,O-Diethyl S-ethylthiomethylthiothionophosphate	(C2H5O)2P(S)SCH2SC2H5	298-02-2	Liquid	mg/m3	0.05	Fullface mask	A	P3	
O,O-Diethyl-O(p-nitrophenyl) phosphorothioate	(C2H5O)2P(S)OC6H4NO2	56-38-2	Liquid	mg/m3	0.10	Fullface mask	A2	P3	
O,O-Diethyl-O-2-isopropyl-4-methyl-6-pyrimidinyl-phosphorothioate	C12H21N2O3PS	333-41-5	Liquid	mg/m3	0,1	Fullface mask	BE	P3	
O,O-Dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate	(CH3O)2P(S)OC6H2Cl3	299-84-3	Solid	mg/m3	10.00	Fullface mask	A	P3	
O-anisidine	NH2C6H4OCH3	90-04-0	Liquid	mg/m3	0.5	Fullface mask	A	P3	
1,2,3,4,5,6,7,8-octachloronaphthalene	C10Cl8	2234-13-1	Solid	mg/m3	0.10	Fullface mask	A	P3	
Octalene	C12H8Cl6	309-00-2	Solid	mg/m3	0.25	Half or Fullface mask	AB	P3	
O-dianisidine	(NH2C6H3OCH3)2	119-90-4	Solid			Half or Fullface mask		P3	
O-dichlorobenzol	C6H4Cl2	95-50-1	Liquid	ppm	50	Fullface mask	A		6,01
O-diphenylbenzene	C6H5C6H4C6H5	84-15-1	Solid	ppm	0.50	Half or Fullface mask		P3	9,42
Oil mist, mineral		8012-95-1	Solid	mg/m3	5.00	Fullface mask		P3	
Oil of mirbane	C6H5NO2	98-95-3	Liquid	ppm	1.00	Fullface mask	A	P3	5,04
O-methylcyclohexanone	CH3C6H9O	583-60-8	Liquid	ppm	50.00	Fullface mask	A		4,59
O-Methylnitrobenzene	NO2C6H4CH3	88-72-2	Liquid	ppm	2	Fullface mask	A	P3	5,61
O-nitrotoluene	NO2C6H4CH3	88-72-2	Liquid	ppm	2	Fullface mask	A	P3	5,61
Ortho-dichlorobenzene	C6H4Cl2	95-50-1	Liquid	ppm	50	Fullface mask	A		6,01
Ortho-nitrotoluene	NO2C6H4CH3	88-72-2	Liquid	ppm	2	Fullface mask	A	P3	5,61
Orthophosphoric acid	H3PO4	7664-38-2	Solid	mg/m3	1.00 (ST)	Fullface mask	B	P3	
O-sec-Butylphenol	CH3CH2CH(CH3)C6H4OH	89-72-5	Liquid	ppm	5	Fullface mask	A		6,14
Osmic acid anhydride	OsO4	20816-12-0	Solid	mg/m3	0.002	Fullface mask	B	P3	
Osmium oxide	OsO4	20816-12-0	Solid	mg/m3	0.002	Fullface mask	B	P3	
O-Triphenyl	C6H5C6H4C6H5	84-15-1	Solid	ppm	0.50	Half or Fullface mask		P3	9,42
Oxalic acid	HOOCCOOH • 2H2O	144-62-7	Solid	mg/m3	1.00	Fullface mask		P3	
Oxalic acid dihydrate	HOOCCOOH • 2H2O	144-62-7	Solid	mg/m3	1.00	Fullface mask		P3	
2-Oxetanone	C3H4O2	57-57-8	Liquid			SCBA or Supplied-Air			
Oxooctyl alcohol	C7H15CH2OH	26952-21-6	Liquid	ppm	50.00	Fullface mask	A		5,33
Ozone	O3	10028-15-6	Gas	ppm	0.10	Fullface mask	AXB2	P3	1,96
P									
P - Aramid respirable fibres	(C14 H10 O2 N2) n	26125-61-1		fibres/ml	0. 50	Half or Fullface mask		P3	
P- toluenesulphonyl chloride	C7 H7 S O2 Cl	98-59-9	Solid	mg/m3	5.00 (ST)	Half or Fullface mask	AB	P3	
Paracetamol	C8 H9 N O2	103-90-2	Solid	mg/m3	10.00	Half or Fullface mask		P3	
Para-dichlorobenzene	C6 H4 Cl2	106-46-7	Solid	ppm	75	Fullface mask	A		6,01
Para-dinitrobenzene	C6H4(NO2)2	100-25-4	Solid	mg/m3	1	Half or Fullface mask	A	P3	
Paraquat chloride	CH3(C5H4N)2CH3 • 2Cl	1910-42-5	Solid	mg/m3	0,1	Fullface mask	A	P3	
Parathion-ethyl	(C2H5O)2P(S)OC6H4NO2	56-38-2	Liquid	mg/m3	0.10	Fullface mask	A2	P3	
PCB	C6H3Cl2C6H2Cl3	11097-69-1	Liquid	mg/m3	0,1	Fullface mask	AB	P3	
P-Chloronitrobenzene	ClC6H4NO2	100-00-5	Solid	mg/m3	1	Fullface mask	AB	P3	
Pcnb	ClC6H4NO2	100-00-5	Solid	mg/m3	1	Fullface mask	AB	P3	
PCP	C6Cl5OH	87-86-5	Solid	mg/m3	0.50	Fullface mask	A	P3	
P-Dioxane	C4H8O2	123-91-1	Liquid	ppm	10	Fullface mask	A	P3	3,6
Penta	C6Cl5OH	87-86-5	Solid	mg/m3	0.50	Fullface mask	A	P3	
Pentachlorophenol	C6Cl5OH	87-86-5	Solid	mg/m3	0.50	Fullface mask	A	P3	
2,3,4,5,6-pentachlorophenol	C6Cl5OH	87-86-5	Solid	mg/m3	0.50	Fullface mask	A	P3	
Pentachlorophosphorus	PCl5	10026-13-8	Solid	mg/m3	1	Fullface mask	B	P3	

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H20 = H20**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Pentan- 2- one	CH3COCH2CH2CH3	107-87-9	Liquid	ppm	200.00	Fullface mask	A		3,52
Pentane	CH3[CH2]3CH3	109-66-0	Liquid	ppm	120.00	Fullface mask	AX		2,95
1,5-pentanedial	OCH(CH2)3CHO	111-30-8	Liquid	ppm	0,2	Fullface mask	A2	P3	4,09
1-Pentanol acetate	CH3COO[CH2]4CH3	628-63-7	Liquid	ppm	100	Fullface mask	A		5,33
2-Pentanol acetate	CH3COOCH(CH3)C3H7	626-38-0	Liquid	ppm	125	Fullface mask	A		5,33
3-Pentanone	CH3CH2COCH2CH3	96-22-0	Liquid	ppm	200	Half or Fullface mask	A		3,53
Perchlorethylene	Cl2C=CCl2	127-18-4	Liquid	ppm	50	Fullface mask	A		6,78
Perchloroethylene	Cl2C=CCl2	127-18-4	Liquid	ppm	50	Fullface mask	A		6,78
Peroxide de 2-Butanone	C8H16O4	1338-23-4	Liquid	ppm	VLE=0,2	Fullface mask	A	P3	
Pgdn	CH3CNO2OHCHNO2OH	6423-43-4	Liquid	ppm	0.20	Fullface mask	A	P3	6,79
PGE	C9H10O2	122-60-1	Liquid	ppm	1.00	Fullface mask	A		6,14
Phenyl methane	C6H5CH3	108-88-3	Liquid	ppm	100	Fullface mask	A		3,77
Phenyl phosphate	(C6H5O)3PO	115-86-6	Solid	mg/m3	3.00	Fullface mask	A	P3	
2-Phenyl propane	C6H5CH(CH3)2	98-82-8	Liquid	ppm	50	Fullface mask	A		4,92
2-Phenyl propylene	C6H5C(CH3)=CH2	98-83-9	Liquid	ppm	50	Fullface mask	A		4,83
Phenylaniline	(C6H5)2NH	122-39-4	Solid	mg/m3	10	Fullface mask	A	P3	
1,4-Phenylene diamine	C6H4(NH2)2	106-50-3	Solid	mg/m3	0.10	Fullface mask	A	P3	
Phenylethylene	C6H5CH=CH2	100-42-5	Liquid	ppm	50	Fullface mask	A		4,26
Phorate (iso)	(C2H5O)2P(S)SCH2SC2H5	298-02-2	Liquid	mg/m3	0.05	Fullface mask	A	P3	
Phosphine	PH3	7803-51-2	Gas	ppm	0.30	Fullface mask	B		1,39
Phosphoric chloride	PCl5	10026-13-8	Solid	mg/m3	1	Fullface mask	B	P3	
Phosphorus anhydride	P205 ou P4O10	1314-56-3	Solid	mg/m3	2	Half or Fullface mask	A	P3	
Phosphorus chloride	PCl3	7719- 12 2	Liquid	ppm	0.20	Fullface mask	B 450	P3	5,62
Phosphorus chloride,	POCl3	10025-87-3	Liquid	ppm	0.10	Fullface mask	B	P3	6,23
Phosphorus oxychoride	POCl3	10025-87-3	Liquid	ppm	0.10	Fullface mask	B	P3	6,23
Phosphorus pentasulphide	P2S5/P4S10	1314-80-3	Solid	mg/m3	1	Fullface mask	B 450	P3	
Phosphorus pentoxide	P205 ou P4O10	1314-56-3	Solid	mg/m3	2.00 (ST)	Half or Fullface mask	A	P3	
Phosphorus perchloride	PCl5	10026-13-8	Solid	mg/m3	1	Fullface mask	B	P3	
Phosphorus trichloride	PCl3	7719- 12 2	Liquid	ppm	0.20	Fullface mask	B 450	P3	5,62
Phosphorus, yellow	P4	7723-14-0	Solid	mg/m3	0.10	SCBA or Supplied-Air			
Picloram (iso)	C6H3Cl3O2N2	1/02/18	Solid	mg/m3	5	Fullface mask	AB	P3	
Piperazine dihydrochloride	C4H10N2 • 2HCl /	142-64-3	Solid	mg/m3	5.00	Fullface mask		P3	
Piperazine hydrochloride	C4H10N2 HCl	142-64-3	Solid	mg/m3	5.00	Fullface mask		P3	
Piperidine	CH2(CH2)4NH	110-89-4	Liquid	ppm	?	Half or Fullface mask	A		
Platinum metal	Pt	7440 06 4	Solid	mg/m3	5.00	Half or Fullface mask		P2/P3	
Polychlorinated biphenyl	C6H3Cl2C6H2Cl3	11097-69-1	Liquid	mg/m3	0,1	Fullface mask	AB	P3	
Polychlorinated biphenyls (pcb's)	C12 H(10- x) Clx	1336-36-3	Liquid	mg/m3	0,5	SCBA or Supplied-Air			
Polyvinyl chloride (pvc) (resp. Dust)	(C2 H3 Cl) N	9002-86-2	Solid	mg/m3	4.00	Fullface mask		P3	
Portland cement (resp. Dust)	as Portland Cement	65997-15-1	Solid	mg/m3	10	Half or Fullface mask		P2/P3	
Potassium bromate	K Br O3	7789-01-2	Solid			Half or Fullface mask		P3	
Potassium hydrate	KOH	1310-58-3	Solid	mg/m3	2.00 (ST)	Fullface mask		P3	
Potassium hydroxide	KOH	1310-58-3	Solid	mg/m3	2.00 (ST)	Fullface mask		P3	
P-quinone	OC6H4O	106-51-4	Solid	ppm	0,1	Fullface mask	A	P3	4,42
Primary isoamyl alcohol	(CH3)2CHCH2CH2OH	123-51-3	Liquid	ppm	100.00	Fullface mask	A		3,61
Prop- 2- yn- 1- ol	C3H3OH	107-19-7	Liquid	ppm	1.00	Fullface mask	A		2,29
Propane- 1,2- diol (total)	C3 H8 O2	57-55-6	Liquid	ppm	150.00	Half or Fullface mask	A	P3	3,11
1,2,3-propanetriol	HOCH2CH(OH)CH2OH	56-81-5	Liquid	mg/m3	5	Fullface mask	A	P3	
1,2,3-Propanetriol trinitrate	CH2NO3CHNO3CH2NO3	55-63-0	Liquid	mg/m3	0,1	Half or Fullface mask	A	P3	
1-propanol	CH3CH2CH2OH	71-23-8	Liquid	ppm	200.00	Fullface mask	A		2,46
2-propanol	(CH3)2CHOH	67-63-0	Liquid	ppm	400.00	Fullface mask	A		2,46
3- Propanolide (propiolactone)	C3H4O2	57-57-8	Liquid			SCBA or Supplied-Air			
2-propanone	(CH3)2CO	67-64-1	Liquid	ppm	750	Fullface mask	AX		2,38
1-Propen-3-ol	CH2=CHCH2OH	107-18-6	Liquid	ppm	2.00	Fullface mask	A		5,01
2-propenal	CH2=CHCHO	107-02-8	Liquid	ppm	0.10	Fullface mask	AX 450		2,29
2-propenamide	CH2=CHCONH2	79-06-1	Solid	mg/m3	0,3	Fullface mask	A	P3	
2-propenenitrile	CH2=CHCN	107-13-1	Liquid	ppm	2	Fullface mask	A	P3	4,34
2-Propenoic acid	CH2=CHCOOH	79-10-7	Liquid	ppm	2	Half or Fullface mask	A		2,95
2-Propenoic acid, 2-cyano-, ethyl ester	C6H7NO2	7085-85-0	Liquid	mg/m3	1.500	Fullface mask	AXB	P3	5,2
Propenol	CH2=CHCH2OH	107-18-6	Liquid	ppm	2.00	Fullface mask	A		5,01
[(2-Propenyloxy)methyl] oxirane	C6H10O2	106-92-3	Liquid	ppm	5.00	Fullface mask	A		4,67
3-Propiolacetone	C3H4O2	57-57-8	Liquid			SCBA or Supplied-Air			

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H20 = H20**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Propoxur (iso)	CH3NHCOOC6H4OCH(CH3)2	114-26-1	Solid	mg/m3	0.50	Fullface mask		P3	
Propranolol	C16 H21 N O2	525-66-6		mg/m3	2.00	Half or Fullface mask	A	P3	
2-Propyl acetate	CH3COOCH(CH3)2	108-21-4	Liquid	ppm	250.00 (ST)	Fullface mask	A		9,5
Propyl alcohol	CH3CH2CH2OH	71-23-8	Liquid	ppm	200.00	Fullface mask	A		2,46
Propylene	C3 H6	115-07-1	Gas	ppm		SCBA or Supplied-Air			
Propylene glycol	as Propane- 1,2- diol	57-55-6	Liquid	ppm	150.00	Half or Fullface mask	A	P3	3,11
Propylene glycol-1,2-dinitrate	CH3CNO2OHCHNO2OH	6423-43-4	Liquid	ppm	0.20	Fullface mask	A	P3	6,79
1,2-Propylene glycol dinitrate	CH3CNO2OHCHNO2OH	6423-43-4	Liquid	ppm	0.20	Fullface mask	A	P3	6,79
Propylene imine (inhibited)	C3H7N	75-55-8	Liquid	ppm	2	Fullface mask	K	P3	2,34
2-Propyn-1-ol	C3H3OH	107-19-7	Liquid	ppm	1.00	Fullface mask	A		2,29
1-Propyn-3-ol	C3H3OH	107-19-7	Liquid	ppm	1.00	Fullface mask	A		2,29
2-Propynyl alcohol	C3H3OH	107-19-7	Liquid	ppm	1.00	Fullface mask	A		2,29
Pvc (polyvinyl chloride) (resp. Dust)	(C2 H3 Cl) N	9002-86-2	Solid	mg/m3	4.00	Fullface mask		P3	
Pyridine	C5H5N	110-86-1	Liquid	ppm	5.00	Fullface mask	A	P3	3,24
2- Pyridylamine	NH2C5H4N	504-29-0	Solid	mg/m3	2.00	Half or Fullface mask	A	P3	
Pyrocellulose	(C6H10O5)n	9004-34-6	Solid	mg/m3	5	Half or Fullface mask		P3	
Pyrophosphate	Na4P2O7	7722-88-5	Solid	mg/m3	5.00	Fullface mask		P3	
Q									
Quartz	SiO2	14808-60-7	Solid	mg/m3	0,05	Half or Fullface mask		P3	
R									
Rdx	C3H6N6O6	121-82-4	Solid	mg/m3	1,5	Half or Fullface mask		P3	
Refrigerant 12	CCl2F2	75-71-8	Gas	ppm	1000	SCBA or Supplied-Air			4,95
Refrigerant 21	CHCl2F	75-43-4	Gas	ppm	10	SCBA or Supplied-Air			4,21
Refrigerant 112a	CCl3CClF2	76-11-9	Solid	ppm	500	Fullface mask	A		8,34
Resorcinol	C6H4(OH)2	108-46-3	Solid	ppm	10.00	Fullface mask	A	P3	4,5
Rhodium (as rh) metal fume and dust	Rh	7440-16-6	Solid	mg/m3	0.10	Half or Fullface mask		P2/P3	
Ronnel	(CH3O)2P(S)OC6H2Cl3	299-84-3	Solid	mg/m3	10.00	Fullface mask	A	P3	
Rotenone (iso)	C23 H22 O6	83-79-4	Solid	mg/m3	5.00	Fullface mask	A	P3	
Rouge (resp. Dust)	Fe2O3	1309-37-1	Solid	mg/m3	5.00	Half or Fullface mask		P3	
Rutile	TiO2	13463-67-7	Solid	mg/m3	4.00	Fullface mask		P3	
S									
S-[1,2-bis(ethoxycarbonyl) ethyl]O,O-dimethyl-phosphorodithioate	C10H19O6PS2	121-75-5	Liquid	mg/m3	10.00	Fullface mask	A	P3	
Saccarose	C12H22O11	57-50-1	Solid	mg/m3	10.00	Half or Fullface mask		P2/P3	
2-Sec- butylphenol	CH3CH2CH(CH3)C6H4OH	89-72-5	Liquid	ppm	5	Fullface mask	A		6,14
Sec-Hexyl acetate	C8 H16 O2	108-84-9	Liquid	ppm	50	Fullface mask	A		5,9
Seekay wax	C10H4Cl4	1335-88-2	Solid	mg/m3	2.00	Half or Fullface mask	A	P3	
Selenium dihydride	H2 Se	7783-07-5	Gas	ppm	0.05	SCBA or Supplied-Air			3,31
Sesone	C6H3Cl2OCH2CH2OSO3Na	136-78-7	Solid	mg/m3	5	Fullface mask		P3	
Sevin®	CH3NHCOOC10H7	63-25-2	Solid	mg/m3	5	Half or Fullface mask	A		
Silane	SiH4	7803-62-5	Gas	ppm	5	SCBA or Supplied-Air			1,31
Silica, amorphous (resp. Dust)	SiO2	7631-86-9	Solid	mg/m3	6	Fullface mask		P3	
Silica, fused (resp. Dust)	O2 Si	60676-86-0	Solid	mg/m3	0.08	Fullface mask		P3	
Silicane	SiH4	7803-62-5	Gas	ppm	5	SCBA or Supplied-Air			1,31
Silicon (resp. Dust)	Si	7440-21-3	Solid	mg/m3	4.00	Fullface mask		P3	
Silicon monocarbide	SiC	409-21-2	Solid	mg/m3	5	Half or Fullface mask		P3	
Silver, metallic	Ag	7440-22-4	Solid	mg/m3	0.10	Fullface mask		P3	
Soda lye	NaOH	1310-73-2	Solid	mg/m3	2.00 (ST)	Fullface mask		P3	
Sodium 2-(2,4- dichlorophenoxy) ethyl sulphate	C6H3Cl2OCH2CH2OSO3Na	136-78-7	Solid	mg/m3	5	Fullface mask		P3	
Sodium acid bisulfite	NaHSO3	7631-90-5	Solid	mg/m3	5.00	Fullface mask		P2/P3	
SODIUM AZIDE (as nan3)	NaN3	26628-22-8	Solid	mg/m3	0.3	Half or Fullface mask		P3	
Sodium bisulphite	NaHSO3	7631-90-5	Solid	mg/m3	5.00	Fullface mask		P2/P3	
Sodium borate decahydrate	Na2B4O7 • 10H2O	1303-96-4	Solid	mg/m3	5	Fullface mask		P3	
Sodium fluoroacetate	FCH2COONa	62-74-8	Solid	mg/m3	0.05	Half or Fullface mask		P3	
Sodium hydroxide	NaOH	1310-73-2	Solid	mg/m3	2.00 (ST)	Fullface mask		P3	
Sodium metabisulphite	Na2S2O5	7681-57-4	Solid	mg/m3	5	Fullface mask	B	P3	

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H20 = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Sodium monofluoroacetate	FCH2COONa	62-74-8	Solid	mg/m3	0.05	Half or Fullface mask		P3	
Sodium pyrosulfite	Na2S2O5	7681-57-4	Solid	mg/m3	5	Fullface mask	B	P3	
Steatite talc	Mg3Si4O10(OH)2	14807-96-6	Solid	mg/m3	2	Fullface mask		P3	
Strychnine	C21H22N2O2	57-24-9	Solid	mg/m3	0.15	Fullface mask		P3	
Styrene monomer	C6H5CH=CH2	100-42-5	Liquid	ppm	50	Fullface mask	A		4,26
Subtilisins	Bacillus subtilis	1395-21-7	Solid	mg/m3	0.00006	SCBA or Supplied-Air			
Sucrose	C12H22O11	57-50-1	Solid	mg/m3	10.00	Half or Fullface mask		P2/P3	
Sulfotep (iso)	[(CH3CH2O)2PS]2O	3689-24-5	Liquid	mg/m3	0.20	Fullface mask	ABE	P3	13,18
Sulfur difluoride dioxide	SO2F2	2699-79-8	Gas	ppm	5.00	Fullface mask	BE 450		4,18
Sulfur fluoride	SF6	2551-62-4	Gas	ppm	1000.00	Fullface mask	BE	P3	5,98
Sulfur oxide	SO2	5/09/46	Gas	ppm	2.00	Fullface mask	E		2,62
Sulfur subchloride	S2 Cl2	10025-67-9	Liquid	ppm	1	Fullface mask	B	P3	5,52
Sulfurous acid anhydride	SO2	5/09/46	Gas	ppm	2.00	Fullface mask	E		2,62
Sulfurous oxide	SO2	5/09/46	Gas	ppm	2.00	Fullface mask	E		2,62
Sulfurous oxychloride	SOCl2	7/09/19	Liquid	ppm	1.00 (ST)	Fullface mask	B	P3	4,87
Sulphur dioxide	SO2	5/09/46	Gas	ppm	2.00	Fullface mask	E		2,62
Sulphur hexafluoride	SF6	2551-62-4	Gas	ppm	1000.00	Fullface mask	BE	P3	5,98
Sulphur monochloride	S2 Cl2	10025-67-9	Liquid	ppm	1	Fullface mask	B	P3	5,52
Sulphur pentafluoride	S2F10	5714-22-7	Liquid	ppm	0,01	Fullface mask	B	P3	10,39
Sulphur tetrafluoride	SF4	7783-60-0	Gas	ppm	0.10	SCBA or Supplied-Air			4,42
Sulphuryl difluoride	SO2F2	2699-79-8	Gas	ppm	5.00	Fullface mask	BE 450		4,18
Sym-dichloroethylene	ClCH=CHCl	540-59-0	Liquid	ppm	200	Fullface mask	AX		0,25
Symmetrical tetrabromoethane	CHBr2CHBr2	79-27-6	Liquid	ppm	0.50	Fullface mask	A	P3	14,14
Symmetrical trimethylbenzene	C6H3(CH3)3	108-67-8	Liquid	ppm	25.00	Fullface mask	A		4,92
Sym-Trinitrotoluene	CH3C6H2(NO2)3	118-96-7	Solid	mg/m3	0.50	Fullface mask	A	P3	
T									
2,4,5-T (iso)	Cl3C6H2OCH2COOH	93-76-5	Solid	mg/m3	10.00	Half or Fullface mask		P3	
Talc (resp. Dust)	Mg3Si4O10(OH)2	14807-96-6	Solid	mg/m3	2	Fullface mask		P3	
Tantalum	Ta	7440-25-7	Solid	mg/m3	5.00	Fullface mask		P3	
Tbp	(CH3[CH2]3O)3PO	126-73-8	Liquid	mg/m3	2,5	Fullface mask	A	P3	10,89
Tca	CCl3COOH	76-03-9	Solid	ppm	1.00	Fullface mask	B	P3	6,68
Tce	ClCH=CCl2	79-01-6	Liquid	ppm	75	Fullface mask	A		0,18
Tchh	(C6H11)3SnOH	13121-70-5	Solid	mg/m3	5	Fullface mask	A	P3	
Tcp	(CH3C6H4O)3PO	78-30-8	Liquid	mg/m3	0.10	Half or Fullface mask	A	P3	
Tdi	CH3C6H3(NCO)2	584-84-9	Liquid	ppm	VLE=0,01	Fullface mask	A2B2	P3	7,13
2,4-tdi	CH3C6H3(NCO)2	584-84-9	Liquid	ppm	VLE=0,01	Fullface mask	A2B2	P3	7,13
Tea	(C2H5)3N	121-44-8	Liquid	ppm	10	Fullface mask	ABEK ou K		4
Tedp	[(CH3CH2O)2PS]2O	3689-24-5	Liquid	mg/m3	0.20	Fullface mask	ABE	P3	13,18
Tellurium & compounds	Te	13494-80-9	Solid	mg/m3	0.10	Half or Fullface mask		P2/P3	
Tellurium fluoride	TeF6	7783-80-4	Gas	ppm	0.02	SCBA or Supplied-Air			9,88
Tellurium hexafluoride (as te)	TeF6	7783-80-4	Gas	ppm	0.02	SCBA or Supplied-Air			9,88
Tepp (iso)	[(CH3CH2O)2PO]2O	107-49-3	Liquid	mg/m3	0.05	Fullface mask	A	P3	11,87
Terphenyls (all isomers)	C6H5C6H4C6H5	84-15-1	Solid	ppm	0.50	Half or Fullface mask		P3	9,42
Tert-butyl acetate	CH3COOC(CH3)3	540-88-5	Liquid	ppm	200	Half or Fullface mask	A		4,75
Tert-Butyl ester of acetic acid	CH3COOC(CH3)3	540-88-5	Liquid	ppm	200	Half or Fullface mask	A		4,75
1,1,2,2- tetrabromoethane	CHBr2CHBr2	79-27-6	Liquid	ppm	0.50	Fullface mask	A	P3	14,14
1,1,1,2- Tetrachloro- 2,2- Difluoroethane	CCl3CClF2	76-11-9	Solid	ppm	500	Fullface mask	A		8,34
1,1,2,2- tetrachloro- 1,2- difluoroethane	CCl2FCCl2F	76-12-0	Solid	ppm	500	Fullface mask	A		8,34
2,2,2,6-Tetrachloro-2-picoline	ClC5H3NCCl3	1929-82-4	Solid	mg/m3	5	Fullface mask	AB	P3	
Tetrachloroethylene	Cl2C=CCl2	127-18-4	Liquid	ppm	50	Fullface mask	A		6,78
Tetraethyl pyrophosphate	[(CH3CH2O)2PO]2O	107-49-3	Liquid	mg/m3	0.05	Fullface mask	A	P3	11,87
Tetraethyl silicate	(C2H5)4SiO4	78-10-4	Liquid	ppm	10.00	Fullface mask	A		8,52
Tetrafluorosulfurane	SF4	7783-60-0	Gas	ppm	0.10	SCBA or Supplied-Air			4,42
3a,4,7,7a-Tetrahydro-4,7-methanoindene	C10 H12	77-73-6	Solid	ppm	5	Fullface mask	A	P3	5,41
Tetrahydro-1,4-oxazine	C4H9ON	110-91-8	Liquid	ppm	20.00	Fullface mask	A		3,56
Tetrahydrofuran	C4H8O	109-99-9	Liquid	ppm	200.00	Fullface mask	A		2,95
Tetramethyl silicate	(CH3O)4Si	681-84-5	Liquid	ppm	1.00	Fullface mask	A		6,23
Tetramethyl succinodinitrile	(CH3)2C(CN)C(CN)(CH3)2	3333-52-6	Solid	ppm	0.50	Half or Fullface mask	A	P3	5,57
Tetramethylolmethane	C(CH2OH)4	115-77-5	Solid	mg/m3	5.00	Fullface mask	A	P3	

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H2O = H2O**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Tetramethylthiuram disulfide	C6H12N2S4	137-26-8	Solid	mg/m3	5.00	Fullface mask	A	P	
Tetrasodium diphosphate	Na4P2O7	7722-88-5	Solid	mg/m3	5.00	Fullface mask		P3	
Tetron®	[(CH3CH2O)2PO]2O	107-49-3	Liquid	mg/m3	0.05	Fullface mask	A	P3	11,87
2,4,6-tetryl	(NO2)3C6H2N(NO2)CH3	479-45-8	Solid	mg/m3	1.50	Fullface mask	A	P3	
Thallium, soluble compounds (as tl)	Tl	7440-28-0	Soft solid	mg/m3	0.10	Fullface mask		P3	
Thf	C4H8O	109-99-9	Liquid	ppm	200.00	Fullface mask	A		2,95
Thimet; timet	(C2H5O)2P(S)SCH2SC2H5	298-02-2	Liquid	mg/m3	0.05	Fullface mask	A	P3	
1,1'-Thiobis(2-methyl-4-hydroxy-5-tert-butylbenzene)	[CH3(OH)C6H2C(CH3)3]2S	96-69-5	Solid	mg/m3	5	Half or Fullface mask		P3	
4,4'- THIOBIS (6- tert- BUTYL- m- CRESOL)	[CH3(OH)C6H2C(CH3)3]2S	96-69-5	Solid	mg/m3	5	Half or Fullface mask		P3	
Thiodan®	C9H6Cl6O3S	115-29-7	Solid	mg/m3	0,1	Fullface mask	A	P3	
Thiodemeton	C8H19O2PS3	298-04-4	Liquid	mg/m3	0,1	Fullface mask	ABE	P3	
Thiophenol	C6H5SH	108-98-5	Liquid	ppm	0.1	Fullface mask	A		4,51
Thiram (iso)	C6H12N2S4	137-26-8	Solid	mg/m3	5.00	Fullface mask	A	P	
Tin compounds, inorganic, except snh4 (as sn)	Sn	7440-31-5	Solid	mg/m3	2.00	Fullface mask		P3	
Titanium dioxide (resp. Dust)	TiO2	13463-67-7	Solid	mg/m3	4.00	Fullface mask		P3	
Titanium oxide	TiO2	13463-67-7	Solid	mg/m3	4.00	Fullface mask		P3	
Titanium peroxide	TiO2	13463-67-7	Solid	mg/m3	4.00	Fullface mask		P3	
Tma	(CH3)3N	75-50-3	Gas	ppm	10.00	Fullface mask	K		2,42
Tnt	CH3C6H2(NO2)3	118-96-7	Solid	mg/m3	0.50	Fullface mask	A	P3	
Tocp	(CH3C6H4O)3PO	78-30-8	Liquid	mg/m3	0.10	Half or Fullface mask	A	P3	
3,3'-Tolidine	C14H16N2	119-93-7	Solid	mg/m3	0,02	Fullface mask	A	P3	
Toluene	C6H5CH3	108-88-3	Liquid	ppm	100	Fullface mask	A		3,77
Toluene diisocyanate	CH3C6H3(NCO)2	584-84-9	Liquid	ppm	VLE=0,01	Fullface mask	A2B2	P3	7,13
Tordon®	C6H3Cl3O2N2	1/02/18	Solid	mg/m3	5	Fullface mask	AB	P3	
TPP	(C6H5O)3PO	115-86-6	Solid	mg/m3	3.00	Fullface mask	A	P3	
Trans-Acetylene dichloride	ClCH=CHCl	540-59-0	Liquid	ppm	200	Fullface mask	AX		0,25
Tremolite, Tremolite asbestos	Hydrated mineral silicates	1332-21-4	Fibre	fibres/ml	MEL	Fullface mask		P3	
Tri- o- Cresyl Phosphate	(CH3C6H4O)3PO	78-30-8	Liquid	mg/m3	0.10	Half or Fullface mask	A	P3	
Tribromomethane	CHBr3	75-25-2	Liquid	ppm	0,5	Fullface mask	A		10,34
Tributyl ester of phosphoric acid	(CH3[CH2]3O)3PO	126-73-8	Liquid	mg/m3	2,5	Fullface mask	A	P3	10,89
Tricarbonyl(eta- cyclopentadienyl) manganese (as mn)	C5H5Mn(CO)3	12079-65-1	Solid	mg/m3	0,1	Half or Fullface mask	A	P3	
1,2,4- Trichlorobenzene	C6H3Cl3	120-82-1	Liquid	ppm	5	Fullface mask	A	P3	7,42
1,2,4-Trichlorobenzol	C6H3Cl3	120-82-1	Liquid	ppm	5	Fullface mask	A	P3	7,42
1,1,1- trichlorobis(chlorophenyl) ethane	(C6H4Cl)2CHCCl3	50-29-3	Solid	mg/m3	1.00	Fullface mask		P3	
1,1,1- trichloroethane	CH3CCl3	71-55-6	Liquid	ppm	300	Fullface mask	A		5,36
Trichloroethanoic acid	CCl3COOH	76-03-9	Solid	ppm	1.00	Fullface mask	B	P3	6,68
Trichlorohydrin	CH2ClCHClCH2Cl	96-18-4	Liquid	ppm	10	Fullface mask	A		6,03
Trichloronitromethane	CCl3NO2	76-06-2	Liquid	ppm	0,1	Fullface mask	A	P3	6,72
2,4,5-Trichlorophenoxyacetic acid	Cl3C6H2OCH2COOH	93-76-5	Solid	mg/m3	10.00	Half or Fullface mask		P3	
1,2,3- Trichloropropane	CH2ClCHClCH2Cl	96-18-4	Liquid	ppm	10	Fullface mask	A		6,03
1,1,2- Trichlorotrifluoroethane	CCl2FCClF2	76-13-1	Liquid	ppm	1000.00	SCBA or Supplied-Air			7,67
Tricyclohexyltin hydroxide	(C6H11)3SnOH	13121-70-5	Solid	mg/m3	5	Fullface mask	A	P3	
Tridymite, respirable dust	SiO2	14808-60-7	Solid	mg/m3	0,025	Half or Fullface mask		P3	
Triethylamine	(C2H5)3N	121-44-8	Liquid	ppm	10	Fullface mask	ABEK ou K		4
1,1,1-Trifluoro-2-bromo-2-chloroethane	CF3CHBrCl	151-67-7	Liquid	ppm	2	SCBA or Supplied-Air			8,07
Triglycidyl isocyanurate (tgic)	C12 H15 N3 O6	2451-62-9	Solid	mg/m3	VLE	Half or Fullface mask	AB	P3	
Triiodomethane	CHI3	75-47-8	Solid	ppm	0,6	Fullface mask	A		16,1
Trilene	ClCH=CCl2	79-01-6	Liquid	ppm	75	Fullface mask	A		0,18
Trimanganese tetraoxide	Mn3O4	1317-35-7	Solid	mg/m3	1.00	Half or Fullface mask		P3	
Trimethyl carbinol	(CH3)3COH	75-65-0	Liquid	ppm	100.00	Fullface mask	A		3,03
1,3,5-Trimethylbenzene	C6H3(CH3)3	108-67-8	Liquid	ppm	25.00	Fullface mask	A		4,92
3,5,5-Trimethyl-2-cyclo-hexen-1-one	C9H14O	78-59-1	Liquid	ppm	4	Fullface mask	A		5,65
3,5,5-Trimethyl-2-cyclohexenone	C9H14O	78-59-1	Liquid	ppm	4	Fullface mask	A		5,65
3,5,5- trimethylcyclohex- 2- enone	C9H14O	78-59-1	Liquid	ppm	4	Fullface mask	A		5,65
1,3,5-Trinitro-1,3,5-Triazacyclohexane	C3H6N6O6	121-82-4	Solid	mg/m3	1,5	Half or Fullface mask		P3	
2,4,6- trinitrophenol	(NO2)3C6H2OH	88-89-1	Solid	mg/m3	0.10	Fullface mask		P3	9,37
2,4,6-Trinitrophenyl-N-methylnitramine	(NO2)3C6H2N(NO2)CH3	479-45-8	Solid	mg/m3	1.50	Fullface mask	A	P3	
Trinitrotoluene	CH3C6H2(NO2)3	118-96-7	Solid	mg/m3	0.50	Fullface mask	A	P3	
2,4,6- Trinitrotoluene	CH3C6H2(NO2)3	118-96-7	Solid	mg/m3	0.50	Fullface mask	A	P3	
Trinitrotoluol	CH3C6H2(NO2)3	118-96-7	Solid	mg/m3	0.50	Fullface mask	A	P3	
Triphenyl ester of phosphoric acid	(C6H5O)3PO	115-86-6	Solid	mg/m3	3.00	Fullface mask	A	P3	

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H20 = H20**

Respiratory Protection Guide

Chemical name in English	Chemical formula	CAS number	Normal state	Unit of measurement	OEL 8 hour	Type of protection	Gas filter	Particulate filter	EQUIV 1 ppm = (x) mg/m³
Tripoli	SiO2	14808-60-7	Solid	mg/m3	0,025	Half or Fullface mask		P3	
Tris(Dimethyldithiocarbamato)iron	[(CH3)2NCS2]3Fe	14484-64-1	Solid	mg/m3	10.00	Fullface mask		P3	
Tte	CCl2FCClF2	76-13-1	Liquid	ppm	1000.00	SCBA or Supplied-Air			7,67
Tungsten & compounds (as w) (soluble)	W	7440-33-7	Solid	mg/m3	1.00	Fullface mask		P3	
Turpentine	C10 H16 (approx)	8006-64-2	Liquid	ppm	100.00	Fullface mask	A		5,56
U									
Unsym-trichlorobenzene	C6H3Cl3	120-82-1	Liquid	ppm	5	Fullface mask	A	P3	7,42
Uranium compounds, natural, soluble (as u)	U	7440-61-1	Solid	mg/m3	0.20	Fullface mask		P3	
V									
Vac	CH2=CHOOCCH3	108-05-4	Liquid	ppm	VLE =4	Fullface mask	A		3,52
Vanadic anhydride fume	V2O5	1314-62-1	Solid	mg/m3	VLE=0,005	Fullface mask		P3	
Vdc	CH2=CCl	75-35-4	Liquid	ppm	VLE	Fullface mask	AX	P3	
Vinyl carbinol	CH2=CHCH2OH	107-18-6	Liquid	ppm	2.00	Fullface mask	A		5,01
W									
Warf	C19H16O4	81-81-2	Solid	mg/m3	0.10	Half or Fullface mask		P2/P3	
Warfarin (iso)	C19H16O4	81-81-2	Solid	mg/m3	0.10	Half or Fullface mask		P2/P3	
White spirit	n/ a	8052-41-3	Liquid	mg/m3	350	Fullface mask	A		
X									
Xylene (all isomers)	C8H10	1330-20-7	Liquid	ppm	100.00	Fullface mask	A		4,35
Xylidine	C6H5N(CH3)2	121-69-7	Liquid	ppm	5	Fullface mask	AK	P3	4,96
Y									
Y- bhc (iso)	C6H6Cl6	58-89-9	Solid	mg/m3	0.50	Fullface mask	B	P3	
Yttrium	Y	7440-65-5	Solid	mg/m3	1.00	Fullface mask		P3	
Z									
Zinc chloride, fume	ZnCl2	7646-85-7	Solid	mg/m3	1.00	Fullface mask		P3	
Zinc dichloride fume	ZnCl2	7646-85-7	Solid	mg/m3	1.00	Fullface mask		P3	
Zinc distearate (resp. Dust)	Zn(C18H35O2)2	557-05-1	Solid	mg/m3	5	Fullface mask		P3	
Zinc oxide fume	ZnO	1314-13-2	Solid	mg/m3	5.00	Half or Fullface mask		P3	
Zirconium compounds (as zr)	Zr	7440-67-7	Solid	mg/m3	5.00	Half or Fullface mask		P2/P3	

***Another alternative: IRA or AIR - Legends: HM or FM: half-face or full-face mask - FM: full-face mask - IRA: IRA - AIR: Supplied-air – semi-developed chemical formula: H2O = H2O**

Index Products

Index Products

Notes

Notes

Notes

SPERIAN PROTECTION (UK) LIMITED
Osborn Way
Hook
Hampshire RG27 9HX
United Kingdom
Tel: +01256 693200
Fax: +01256 693300
uksales@sperianprotection.com

INTERNATIONAL: SPERIAN PROTECTION EUROPE (SAS)
Immeuble Edison Paris Nord 2
33 rue des Vanesses
BP 55288 Villepinte
95958 Roissy CDG Cedex - France
Tel: +33 (0)1 49 90 79 79
Fax: +33 (0)1 49 90 71 38
info-export@sperianprotection.com