
3M
Science.
Applied to Life.™
The importance of filter change
Filters do not last forever.
© 3M 2022.
#3MScienceOfSafety

Why and When to replace your 3M filters?

The use of respiratory protection filters can be confusing and complicated and there are a number of common questions and issues that arise regularly. The questions and answers below try to briefly cover these. For complicated and high exposure situations, seek advice from an occupational hygienist or health and safety professional.

What guidance is available in selecting the correct respirator and filters?

There are two Australian and New Zealand Standards that pertain to respiratory protection. AS/NZS1715 is for the user and is called “Selection, use & maintenance of respiratory protective devices”. AS/NZS1716 provides the information required to assess and test the performance requirements that the different types of respiratory protection products must meet.

Guidance is also available from your local 3M representative and/or the 3M TechAssist Helpline, Refer to the last page for contact details.

What types of filters are there?



Particulate Filters - Protect only against particles i.e. aerosols (such as: dust, mist, fume, fibers, smoke, etc.), mould and bacteria. There are different connection types for the range of 3M facepieces.



Gas/Vapour Cartridge Filters - Protect only against gases and vapours. There are different kinds of gas & vapour cartridge filters for different kinds of gases and vapours. Gases and vapour filters are some time called “cartridges” or “cartridge filters”. There are different connection types for the range of 3M facepieces.

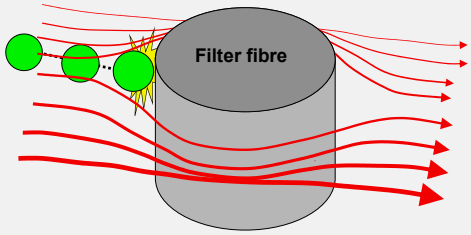


Combination Filters - Protect against both particles , gases and vapours. Different combination particulate/ cartridge filters are used depending on the gas or vapour present in the air. There are different connection types for the range of 3M facepieces.

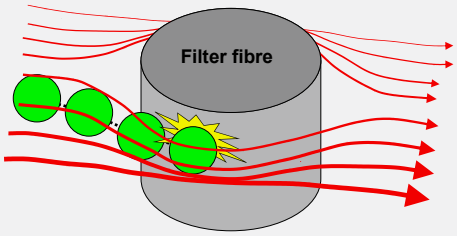
Why do I need to replace my filters regularly?

Particulate filters get clogged up and become harder to breathe through placing an increased physiological burden on the wearer. Gas and vapour cartridge filters start to let contaminant through once their sorbents become saturated. This is called breakthrough. Important: The selection of filters must be carried out by a competent person with a full knowledge of the respiratory hazards in the workplace.

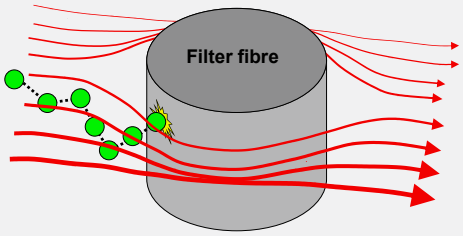
Particulate Filter Capture



Inertial Impaction Dominant for large particles (>0.6µm)



Interception Capture Operative for particles greater than 0.1 µm



Diffusion Capture Operative for particles < 0.4 µm, dominant for < 0.1 µm

How do particle filters work?

A bed of randomly oriented fibres is used to create the filter. Treated fibres can be used to attract and trap particles as they flow into and through the filter material. Increasing the thickness and capture effectiveness of the filter material increases the filter efficiency at capturing particles.

Particle filters are tested according to AS/NZS1716 Section 4.3.5 and Appendix I and L. The physics of particle capture indicates that the particle size range 0.02-0.2 micron equivalent diameter and a mass median particle diameter of approximately 0.3 to 0.6 µm is the most difficult size range to capture. The particulate filter is tested with a sodium chloride challenge aerosol consisting of particles mainly of this size. There are four common mechanisms of filtration being interception capture, inertial impaction, diffusion capture and electrostatic attraction. Refer to image on previous page.

In practice, particle filters designed for respiratory protection will capture particles of all sizes – the major difference is the relative performance in the range between ~0.1 and 1 um. Each class of filter must perform above a certain level against the test aerosol to be then classified under AS/NZS1716 as explained below.

AS/NZS1716 uses a classification system to identify the different types of particulates these filters will capture e.g. P1, P2, P3.

What's a P1, P2, P3 rating filter?

A P1 is an AS/NZS1716 rated particle filter for use with Mechanically generated particles e.g. particles generated by crushing, grinding, drilling, sanding, cutting, etc including wood dust and silica. It must be at least 80% efficient to the most penetrating particle size.

A P2 is an AS/NZS1716 rated particle filter for use with Mechanically and Thermally generated particles e.g. welding fume. These are also the recommended type for use with airborne particles that may contain biological hazards. It must be at least 94% efficient to the most penetrating particle size.

A P3 filter is the highest efficiency particle filter class and is used for particulates that are of high toxicity or at high concentrations. The benefit of this high efficiency filter can only be achieved on a full facepiece respirator. It must be at least 99.95% efficient to the most penetrating particle size.

What is a N95 filter level?

N95 is the United States National Institute of Occupational Safety and Health (NIOSH) classification that is similar to the P2 rating under AS/NZS1716. N refers to sodium chloride and the 95 refers to these products being at least 95% efficient to the sodium chloride test aerosol. NIOSH also have R and P type particulate filters for oily particulate. In Australia and New Zealand, it is common in healthcare environments for N95 surgical respirators to be used.

How long do particle filters last?

As particle filters load up with the contaminant, they actually become more restrictive to the passage of particles and can be a better filter. However, they also become harder to breathe through. The wearer will notice this increased load and at some point, decide that the restriction is too high and will then need to change the filter. How soon this occurs will also be dependent on the amount of particles in the breathing air. A very dusty job will obviously clog the filter up more quickly than a relatively less dusty job. The change decision point will vary from individual to individual, as some people are more sensitive to the increase in breathing load than others.

When do I replace my particulate filters?

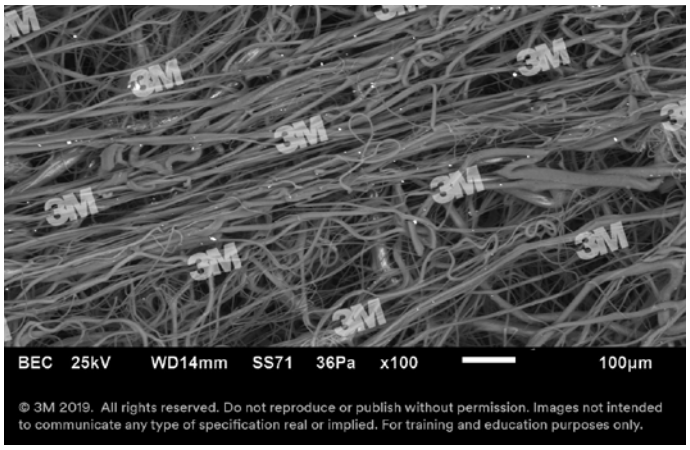
Replace both the 3M™ Particulate Filters or filtering facepiece/ disposable particulate respirators when:

- The breathing resistance becomes excessive to the wearer (this will vary from individual to individual).
- The filter is wet or has any physical damage e.g. holes from welding sparks
- It becomes unhygienic i.e. it has been coughed/sneezed into and the inside is in an unacceptable condition.
- Some workplaces e.g. healthcare environments, may require filters to be replaced after every use due to infection control procedures.

Are there situations where particle filters must not be used?

There are several applications where particle filters should NOT be used:

- When the ambient Oxygen level is not guaranteed to be > 19.5%. Filters do not create oxygen.
- For the capture of gases or vapours - these need a specifically rated gas/vapour filter.
- When the airborne particulate contaminant concentrations are high i.e. greater than the standard allows for that respirator type.
- When Government Regulations require use of airline or other specific type of respirator for specific applications.



Example of a layer from a P2 reusable respirator filter.

How a gas and vapour cartridge works.



3M makes gas and vapour respirator cartridges to help reduce user exposure to many different gases and vapours. To achieve this objective, respirator cartridges are filled with a material called activated carbon. Activated carbon is typically made from coal or renewable resources like wood or coconut shells. It is "activated" by heating the material in nitrogen or steam at approximate temperatures of 800 – 900°C. The resulting material has a significant number of micropores ideal for removal of organic vapours by adsorption. Adsorption is the adherence of gas or vapour molecules to the surface of the activated carbon. The attractive force between the activated carbon and the chemical molecule is a relative small, weak physical force. These micropores can be measured and optimized for specific product needs and performance.

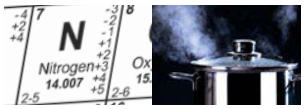
The activated carbon sorbent bed can be impregnated with chemicals reagents to remove specific gas and vapours by chemisorption. Chemisorption is the formation of bonds between molecules of the impregnate and the chemical contaminant. These bonds are much stronger than the attractive forces of physcial adsoprtion. The binding is usually irreversible.



Coal or renewable resources, such as coconut shells



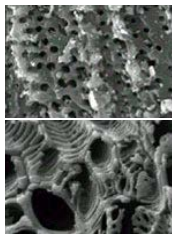
Coal or renewable resources are heated without oxygen



High-temperature steam or nitrogen activation



High-grade activated carbon



Electron micrographs of activated carbon pores

Organic vapours are predominantly removed by adsorption. When organic vapours are drawn through an organic vapour cartridge, the air is filtered as vapours condense into the carbon pores. Vapours move through the cartridge from one pore to the next. This occurs more quickly for small volatile vapours with lower boiling points (e.g., acetone). Some migration of organic vapours can even occur during storage, so care must be taken before reusing the cartridge. The effective service life is the time until vapours begin to exit the cartridge.

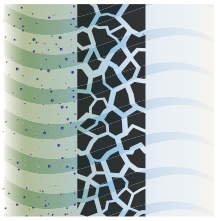
Unlike particle filters, service life is not indicated by change in breathing resistance. Instead, cartridges must be changed according to local regulations or the established filter change schedule. If after establishing the change schedule; the contaminant can be detected sooner inside the respirator by irritation, taste or smell; the change schedule must be adjusted to a shorter change frequency.

Activated carbon by itself cannot adsorb other types of gases or vapours such as acid gases, ammonia, formaldehyde, etc. In some cases, additional metals and salts are added to the carbon to selectively remove these compounds. For this reason, 3M offers a variety of cartridges and facepieces to help protect workers in different environments and satisfy personal preferences.

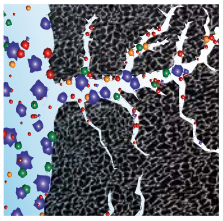
AS/NZS 1716 uses a classification system to identify the different types of contaminants these filter cartridges capture. 3M Australian and New Zealand rated Filter cartridges follow this marking and colour coding system.

3M is committed to develop quality safety products to help protect workers. For more information about 3M gases and vapour cartridges, please visit **3M.com.au/ppesafety** and **3M.co.nz/ppesafety.**

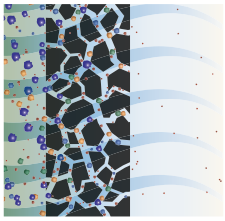
To establish a cartridge change schedule using the 3M Australia and Select and Service life software please visit **sls.3m.com** and select Australia & New Zealand



Unfiltered organic vapours are drawn into the cartridge.



Activated carbon adsorbs organic vapours on molecular level.



Service life continues until vapours begin to escape the cartridge.

Factors that influence service life:

- Exposure concentration
- Ambient Temperature
- Humidity Level (water vapour takes up space in carbon pores)
- Rate of breathing
- Class of cartridge e.g. A1, A2

How do Gas/Vapour cartridge filters Work?

These filters rely on sorbent material to collect the gas and vapour on the sorbent bed surface. Typically, the sorbent is carbon grain, which has been specifically treated. Depending on the chemical treatment of the carbon surface, this material will adsorb different types of gases or vapours.

AS/NZS1716 uses a classification system to identify the different types of contaminants these treated carbon grains will capture e.g. A, AX, B, E, K, Hg and G.

How long do Gas/Vapour cartridge filters last?

Gas/Vapour cartridge filters are rated according to their adsorbent capacity. In increasing capacity, the ratings are: Class Aus, Class1, 2 or 3. This means we can have an A1 or a A2 or a multigas type filters like an A2B2E2K1 with different adsorption capacity for different gases/vapours.

The service life (i.e. how long will it perform) of any Gas/Vapour cartridge filters is affected by many factors – concentration and identity of contaminants, breathing rates, humidity levels, ventilation, temperature, type of carbon treatment etc.

The 3M™ Service Life Software (sls.3m.com/)allows calculation of the estimated expected service life under the applicable workplace conditions. Please contact your 3M representative for assistance with this process.

What is the difference between an A and AX cartridge?

An A cartridge is for Organic compounds with boiling point >65°C. eg. Toluene, Xylene, MEK, Benzene, Alcohols.

An AX cartridge is for Highly volatile organic solvents with boiling point <65°C. e.g. Methanol, 1.3-Butadiene, Acetaldehyde. These types of chemicals migrate through the carbon bed over time. This is why AS/NZS 1716 specify AX filters must be changed after every shift. Manufacturers also specify maximum use concentrations and maximum usage times, so be sure to follow manufacturer guidance. AX are tested against different vapours to A cartridges and have additional desorption tests per AS/NZS 1716

When do I replace my Gas/Vapour cartridge filter?

Replace 3M™ Gas/Vapour Cartridge Filters:

- When the expiry date stamped on the sealed packet has elapsed.
- Once opened, maximum use time is 6 months (even if not used) per AS/NZS 1715. The carbon will adsorb contaminants from the general environment.
- If an odour or taste is perceived. This indicates filters are not being changed often enough and the filter change schedule should be adjusted. The sense of smell or taste should not be relied upon as the primary indicator.
- In accordance with your established Filter Change Schedule.

To avoid smelling or tasting the contaminant when using 3M™ Gas/Vapour Cartridge Filters, take the following steps:

- When you get a new pair of 3M Gas & Vapour Cartridge Filters check the expiry date on the back of the pack.
- Write the date on the filters when first removed from the pack.
- Use the filters on your respirator in your normal work environment.
- Knowing the chemical and the worplace exposure, calculate the estimate service life for the 3M gas/vapour cartridge using the select and Service life sofware: sls.3m.com/. With this information establish the Filter Change Schedule.
- If at any time you smell or taste the contaminant or irritation is detected, the filters need replacing straight away.
- Take note of how long the filters lasted by comparing the date recorded on the filter and the current date.
- If work practices remain the same and the levels of vapours/gases are consistent, replace your filters on a more regular timescale.

Why can't I use smell or taste to determine when a Gas/Vapour cartridge filter should be changed?

In the past, warning properties such as odour, eye irritation, and respiratory irritation were relied on almost completely for indicating when chemical cartridge breakthrough was starting. However, warning properties rely upon human senses that are not foolproof and must not be used per AS/NZS 1715. Some of these reasons are:

- There is considerable variation between individuals
- Sense of smell shifts due to simple colds and other illnesses
- The odour of the contaminant may be masked by other smells
- Olfactory fatigue, where over a period of time the sense of smell tires and will fail to detect high concentrations and particularly where concentration build up gradually e.g. Hydrogen sulfide
- The threshold of odour for some chemicals exceed the levels at which may be considered hazardous
- Some gases have no odour and therefore will not be detected e.g. carbon monoxide
- Some chemicals have a low odour threshold concetrations but do not represent a health hazard at these concentrations e.g. methyl mercaptain

Given the variability among people with respect to detection of odours and differences in measuring odour thresholds, a better practice is to establish a filter change schedule.

What is a Filter Change Schedule?

A filter change schedule is a specified time period after which the Gas/Vapour cartridge will be replaced. This time period may be established after consideration of the service life estimate, workplace conditions such as contaminant concentration, relative humidity, temperature, work activities, respirator use pattern (e.g., continuous or intermittent use), presence of other materials, potential for contaminant migration/desorption, health effects of the gas or vapor, and quality of warning properties, if any.

The filter change schedule must be based on objective information that will ensure that the gas/vapour cartridges are changed before the end of their service life.

The purpose of a change schedule is to establish the time period for replacing respirator gas/vapour cartridges. The data and information relied upon to establish the schedule should be included in the respiratory protection program.

The 3M Select and Service Life software (sls.3m.com/) is an useful tool to assist in establishing a filter cartridge change schedule.

Are there situations where Gas/Vapour cartridge filters must not be used?

There are several applications where gas/vapour filters should NOT be used:

- When the Oxygen level is not guaranteed to be > 19.5%.
- For capture of particles e.g. dusts, mists, fumes or fibres.
- Where the contaminant(s) present cannot be captured by the G&V filter.
- When airborne Gas & Vapour contaminant concentrations are very high.
- When spraying materials (e.g. 2-pack paints) containing Isocyanates.
- When Workplace Health & Safety regulations requirements specify the use of airline or other specific type of respirators for certain applications.

Guide to identify respiratory hazards and assess their risk.

To identify all respiratory hazards review your workplace by:
Task / Area / Process

Respiratory hazards can be categorised as follows:

Oxygen Deficiency	Gases/Vapours	Particulates	Particulates
		Mechanically generated = P1 **Thermally generated = P2**	**Highly Toxic = P3** **For high protection factors = P3**
Less than 19.5% oxygen E.g. Confined spaces	E.g. Organic vapours, Inorganic gas, acid gas, ammonia	E.g. Dust/mist, metal fume, fibre, micro organism	E.g. Beryllium

Risk Assessment
Assess Contaminants and Toxicity / Exposure Levels / Workplace Exposure Standard

Match Cartridge/Filter type to the hazard

Oxygen Deficiency	Gases/Vapours	Particulates	Particulates
		Mechanically generated = P1 **Thermally generated = P2**	**Highly Toxic = P3**
Seek advice from your safety supplier for airline, built-in or SCBA options	Refer to 3M Cartridge options in this document.	Refer to 3M Filter options in this document.	Refer to 3M Cartridge/Filter options in this document.



Match the Reusable Respirator to the Filter/Cartridge



This is a guide only. Selection of the most appropriate personal protective equipment (PPE) will depend on the particular situation and exposure levels and should be made only by a competent person knowledgeable of the assessed risks, actual working conditions and limitations of PPE. Details regarding performance and limitations are set out on the product packaging and user information. If in doubt, contact a safety professional or 3M.

For respiratory training and advice please contact your local 3M representative.

Hazard identification and protection recommendations.

Industry	Application	Hazard	Recommended Protection
Construction	Painting, spraying, varnishing, coating	Solvent-based paint Solvents, resins, synthetic resins Latex-paint, residual solvents Spray-on glue, foam, varnish, adhesive	A1P2
Metal Fabrication	Welding, metal cutting, metal pouring, soldering, brazing	Metal fumes	P2
	Welding - TIG, MIG and other	Metal fumes, ozone gas. Nuisance levels of organic vapour	GP2
Agriculture	Spraying low vapour pressure*** pesticides, herbicides or fungicides	Organic vapour, mist, dust	GP2
	Mixing pesticide, herbicide or fungicide or spraying organic vapours	Organic vapour, mist, dust	A1P2
Automotive	Cleaning or using organic solvents, degreasing, paint thinners and glues	Organic vapour	A1
	Brush or roller application* of 2 pack type paints	Isocyanates*	A1
Fibreglass	Laying up	Expoxy and polyester resin, amines & anhydride hardner. Methy ethyl ketone peroxide (MEKP), styrene vapour	A1P2
	Using a chopper gun	Glass fibre, dust, resin and styrene vapour	
	Spray painting & cleaning moulds	Organic vapour and mist	
Maintenance	Disinfection, cleaning	Organic vapour, mist and dust	A1P2
		Organic vapour, formaldehyde, mist and dust	ABE1P2
Other	Handling	Ammonia (NH_3)**	K
		Bacteria, spores, odours	P2
		Hydrochloric acid vapour or mist**	ABEP2
		Petroleum solvents	A2
		Sulphur dioxide**	E
		Particulates**	P2
		Hazardous goods storage/transport	Seek specialised advice from 3M

* For protection from Isocyanates when spraying polyurethanes/2 pack, please contact the 3M TechAssist Helpline. **Also need to consider eye/face/skin protection. ***Low vapour pressure < 1.3Pa @ 25°C. P3 protection is only achieved on a full face respirator.

Filter selection guide.

Filter Type	Colour	Main area of application
P	White	Particles: Dusts, mists, fumes, fibres, toxic particles & microorganisms (bacteria, fungi, viruses)
A	Brown	Organic vapours with boiling point >65°C. eg. Toluene, Xylene, MEK, Benzene, Alcohols
AX	Brown	Highly volatile organic solvents with boiling point <65°C. e.g. Methanol, 1.3-Butadiene, Acetaldehyde
B	Grey	Acid gases, e.g chlorine, hydrogen sulphide, hydrogen chloride
E	Yellow	Inorganic gases such as sulphur dioxide
K	Green	Ammonia and organic ammonia derivatives
Hg	Red	Mercury (vapour)

Application limits for Gas & Vapour respirators (AS/NZS1715):

- Half face respirators can be used up to 10 times the relevant Workplace Exposure Standards (WES) or up to 1000 ppm, whichever limit is reached first.
- Full face respirators can be used up to 100 times the WES with a Class 2 filter or up to 5000 ppm, whichever limit is reached first.
- A1 and A2 Cartridges are designed for use with organic vapours with a boiling point above 65°C.
- AX Cartridges are used for organic vapours with a boiling point under 65°C. Note: 3M™ AX Cartridges are single use and can only be fitted to 3M™ Full face respirators.

This selection guide is only an outline designed to focus on products which may be appropriate for typical applications - it should not be used as the only means of selecting a product. Selection of the most appropriate personal protective equipment (PPE) will depend on the particular situation and exposure levels and should be made only by a competent person knowledgable of the assessed risks, actual working conditions and limitiation of PPE. Details regarding performance and limitations are set out on the product packaging and user information. If in doubt, contact a safety professional or 3M.

Frequently asked questions.

What is the shelf life of 3M™ Filters?

Provided they are stored unopened in the original packaging, filters will last three or five years (depending on the product) from manufacture date. Once removed from their packaging gas/vapour cartridges should be replaced after six months as recommended by AS/NZS 1715 (even if they have not been used).

How should I store my 3M™ Reusable Respirator and filters?

When not in use, your 3M™ Respirator and Filters should be kept clean and dry, and away from oil, sunlight and corrosive atmospheres to avoid deterioration. A storage container or bag that can be sealed, can be utilised for this purpose. 3M half face and full face respirator kits come in a storage container.

Why do I need to use a Particulate Filter with my Gas & Vapour Cartridge Filters for some applications?

There are many situations where both a particulate hazard and gas/vapour hazard are present at the same time. The particulate filter removes the tiny droplets or particles in the air (e.g. mists from spray painting). The gas and vapour cartridge filters do not filter these particles. If no particulate filter is used, they could be breathed in.

There are many factors such as exposure level, other controls, work rate, breathing rate etc. that contribute to how long a filter/cartridge lasts and when it should be changed. Some indicators are:

- For particulate filters or facepieces when the breathing resistance becomes excessive to the wearer.
- Any damage occurs e.g. broken strap, hole burnt in filter etc.
- It becomes unhygienic i.e. it has been coughed/sneezed into and the inside is in an unacceptable condition.
- For combination filters (particulate and gas/vapour), the capacity of each will depend on the airborne concentrations being filtered – it will fill at its own rate and need to be changed when full. This may be at a different rate to the other.
- The service life (i.e. how long will it perform) of any gas/vapour cartridge is affected by many factors – capacity, concentration and contaminants, breathing rates, humidity levels, ventilation, temperature, type of carbon treatment etc.
- Smell and taste should NOT be used as a primary indicator for when to change a gas/vapour cartridge.
- Some workplaces e.g. healthcare environments, may require filters to be replaced after every use due to infection control procedures.

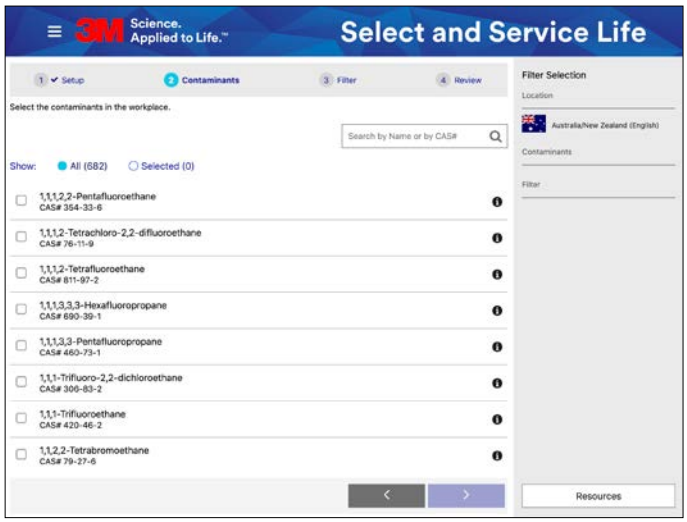
Therefore, there is no specific timing involved and the frequency of replacement of products varies from task to task, situation to situation and product to product.

Every workplace is unique and needs to assess their specific situation to determine an adequate filter change schedule.

Select & Service Life Software

Once you know what's in your air, 3M™ Select and Service Life Software helps you explore respirators, cartridges and filter options and select the one that's right for you. Then you can establish an effective gas/vapor cartridge change out schedule to help keep workers protected

sls.3m.com




3M

Select the right respirator and filter/cartridge.



6000 Series



6500QL Series



7500 Series



6000 FF Series



FF-400 Series



6035
P2/P3**



2125
P2



2135
P2/P3**



603^



5925 P2
5935 P3**



501/501A

3M Twin Bayonet Filters & Cartridges

Particulate Protection



6038
P2/P3**



2128
GP2



2138
GP2/GP3**

Particulate Protection + Nuisance Level* Organic Vapour and Acid Gas



6051 A1
6055^ A2
6054 K1

6057 ABE1
6059 ABEK1
6075 A1+Form

Gas & Vapour Protection only



6051 A1
6055^ A2
6054 K1

6057 ABE1
6059 ABEK1
6075 A1+Form



5925 P2
5935 P3**



501/501A



6096 A1HgP3**
6098 AXP3**
6099 A2B2E2K2P3**
60926^ A1B1E1K1 FormHF/P3**



6051 A1
6055^ A2
6054 K1

6057 ABE1
6059 ABEK1
6075 A1+Form



502 Adapter



OR



2128 P2, 2128 GP2, 2135 P2/P3**, 2138 GP2/GP3**

6035 P2/P3**
6038 P2/P3**

6098 and 6099 are only for use with Full facepiece.

Combined Particulate + Gas & Vapour Protection



4000+ Series



4251+^ A1P2
4255+^ A2P2
4277+ A1B1E1P2
4279+^ A1B1E1K1P2

Combined Particulate + Gas & Vapour Protection

Ready to use, Maintenance free

* Nuisance Levels are those levels below the Workplace Exposure Standard (WES)
** Provides P3 protection only with 3M Full facepiece Respirators. Provides P2 protection with half facepiece respirators.
^ Available in Australia only



HF-800SD Series



D3125 P2 | D3135 P3** | D9035 P3**

Secure Click Filters & Cartridges

Particulate Protection



D3128 P2 | D3138 P3** | D9038 P3**

Particulate Protection + Nuisance Level* Organic Vapour and Acid Gas



D8051 A1 | D8055 A2 | D8059 A1B1E1K1

Gas & Vapour Protection Only



D8051 A1
D8055 A2
D8059 A1B1E1K1

D7925 P2 OR D7935 P3** D701

Combined Particulate + Gas & Vapour Protection



D8094 A1B1E1K1P3** | D8095 A2P3**



HF-300 Series (AVIVA 40)



FF-300 (Promask Single) Series



FF-600F (Vision RFF1000) Series



FF-600 (Vision RFF4000) Series

DT-Series (Pro2000) Filters and Cartridges



052670/DT-1135E P3



042870/DT-4001E A2



042979/DT-4006E A2B2E2K2



042674/DT-4035E A2B2P3



042671/DT-4032E B2P3



042799/DT-4045E A2B2E2K2P3

** Provides P3 protection only with 3M Full Facepiece Respirators. Provides P2 protection with half facepiece respirators.

3M™ Twin Bayonet Filters and Cartridges

3M™ Particulate Filters Series

- Made from 3M high performance filter media for effective filtration efficiency
- Lightweight and provides low breathing resistance
- Suitable for use with 3M™ 6000/6500QL/7500 Series Half Face Respirators and 3M™ 6000 and FF-400 Series Full Face respirators



2125 2128 2135 2138 6035



6038 5925 5935 501A (AUS) 501 (NZ)



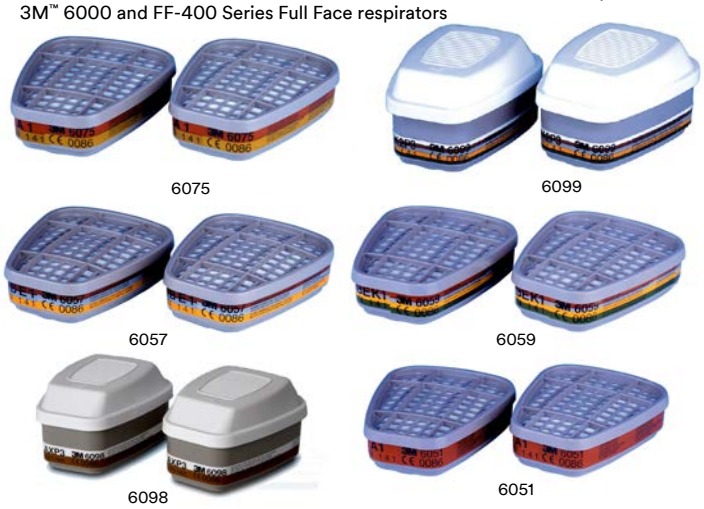
502 2076

3M Order Code	Model #	Description
TI551152299	5925	P2 Particulate Filter for use with 603 filter adapter or 6000 Series gas/vapour cartridges. Requires 501A filter retainer
TI551152356	5935	P3** Particulate Filter for use with 603 filter adapter or 6000 Series gas/vapour cartridges. Requires 501A filter retainer
AT010794884 (AUS) 70071731957 (NZ)	501A (AUS) 501 (NZ)	Filter Retainer for 5925/5935 Particulate Filter for use with 603 filter adapter or 6000 Series gas/vapour cartridges
AT019223455 (AUS) 70070313211 (NZ)	502	Filter Adapters. Use to attach 3M™ Particulate Filters 2000 Series and 6035/6038 filters, to the 3M™ Cartridges 6000 Series. One time use only. Disposed with cartridge.
CR180811885	6035	P2/P3** Particulate Rectangular White Filter
CR180811893	6038	P2/P3** Particulate Rectangular HF with Nuisance OV/AG
70071486180	2125	P2 Particulate Disc Filter
70071486206	2135	P2/P3** Particulate Disc Filter
70071486198	2128	GP2 Particulate, Ozone & Nuisance Level OV/AG Disc Filter
70071486214	2138	GP2/P3** Particulate, Ozone & Nuisance Level OV/AG Disc Filter
70070757912 (AUS) NT010784832 (NZ)	2076	P2HF Particulate & Hydrogen Fluoride Disc Filter

** Provides P3 protection only with 3M Full Face Respirators. Provides P2 protection with half face piece respirators.

3M™ Gas and Vapour Cartridge Filters Series

Suitable for use with 3M™ 6000/6500QL/7500 Series Half Face Respirators and 3M™ 6000 and FF-400 Series Full Face respirators



6075 6099 6057 6059 6098 6051

3M Order Code	Model #	Description
UU006790313	6051	A1 Organic Vapour
GT500084048^	6055	A2 Organic Vapour
UU006790354	6057	A1B1E1 Organic Vapour/Acid Gas Cartridge
AT010561440 (AUS) GT500084055 (NZ)	6054	K1 Ammonia/Methylamine Cartridge
UU006790370	6075	A1 Formaldehyde Cartridge
UU006790362	6059	A1B1E1K1 Multi Gas Cartridge
70071695228	6096	A1E1HgP3 Organic Vapour/Acid Gas/ Mercury/Chlorine/Articulate Cartridge
70070709483^	60926	A1B1E1K1 FormHF/P3 Multi Gas/Particulate
70071617974*	6098	AXP3 Organic Vapour & Particulates. For use with Full Facepiece only
70071695210*	6099	A2B2E2K2HgP3+Formaldehyde. For use with Full Facepiece only

* Use with Full Face Facepiece only

3M™ Filter Adapter 603



- Platform for 5925 P2 and 5935 P3 filters
- Enables these filters to be directly attached to all 3M™ 6000/6500QL/7500 Series Half Face Respirators and 3M™ 6000 and FF-400 Series Full Face respirators
- The filter adapter 603 may be used multiple times on all 3M full or half facepiece respirators.

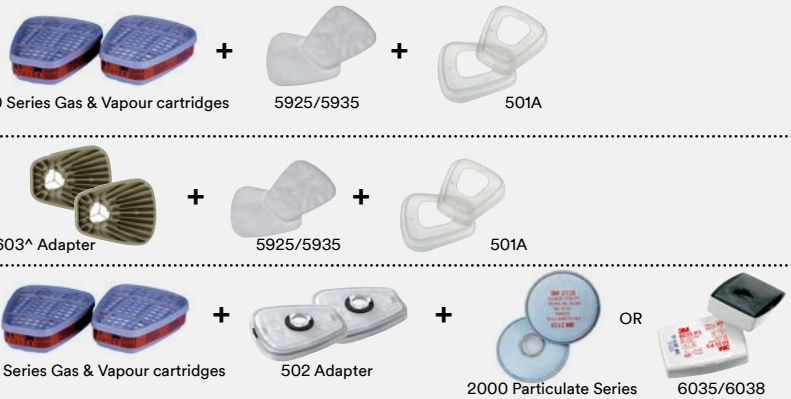
3M Order Code	Model #	Description
70071651759^	603	Filter Adapter. Requires 501A filter retainer 2 adapters in pack. 8 packs per case

^ Available in Australia only

Approved Filter Combinations



3M™ Twin Bayonet Filter facepieces



6000 Series Gas & Vapour cartridges + 5925/5935 + 501A

603^ Adapter + 5925/5935 + 501A

6000 Series Gas & Vapour cartridges + 502 Adapter + 2000 Particulate Series OR 6035/6038

^ Available in Australia only

3M™ Secure-Click™ Filters and Cartridges


D8051 A1


D8055 A2


D8094 A1B1E1K1P3**


D8059 A1B1E1K1


D8095 A2P3**

Secure Click Gas and Vapour Cartridges

3M Order Code	Model #	Description
UU009286772	D8051	Secure Click™ Dual Flow Cartridge A1
UU009288695	D8055	Secure Click™ Dual Flow Cartridge A2
UU009288406	D8059	Secure Click™ Dual Flow Cartridge A1B1E1K1
UU009289347	D8094	Secure Click™ Dual Flow Cartridge A1
UU009289339	D8095	Secure Click™ Dual Flow Cartridge A2P3**


D9035 P3**


D9038 P3**


D3076HF P2


D701


D3138 P3**


D3125 P2


D3135 P3**


D3128 P2


D7925 P2


D7935 P3**

Secure Click Particulate Filters

3M Order Code	Model #	Description
70071731221	D3125	Secure Click™ Particulate Filter P2
70071731247	D3128	Secure Click™ Particulate Filter P2 with Nuisance Level OV/AG*
70071731262	D3135	Secure Click™ Particulate Filter P2/P3**
70071731288	D3138	Secure Click™ Particulate Filter P2/P3** with Nuisance Level OV/AG*
70071731312	D7925	Secure Click™ Particulate Filter P2. Requires D701 to connect to D8000 Series
70071731320	D7935	Secure Click™ Particulate Filter P2/P3**. Requires D701 to connect to D8000 Series
UU010049979	D701	Secure Click™ Filter Retainer. Required to connect D7925/7935 to D8000 Series
UU010285664	D9035	Secure Click™ Hard cover Particulate Filter P3**
UU010291761	D9038	Secure Click™ Hard Cover Particulate Filter P3** with Nuisance Level OV/AG*
70071731361	D3076HF	Secure Click™ Particulate Filter P2HF with Nuisance. Level Acid gas and Hydrogen. Fluoride up to 10x the WES.

Use with HF-800SD Half Face Respirator only. *Organic Vapour/Acid Gas. **Provides P3 protection only with 3M Full Face Respirators. Provides P2 protection with half face piece respirators.

Approved Filter Combinations


HF-800SD Series


D8051 A1
D8055 A2
D8059 A1B1E1K1


D7925 P2

OR


D7935 P3**


D701

DT-Series (Pro2000) Filters and Cartridges



052670/DT-1135E P3**



042870/DT-4001E A2



042979/DT-4006E A2B2E2K2



042674/DT-4035E A2B2P3**



042671/DT-4032E B2P3**



042799/DT-4045E A2B2E2K2P3**

3M Order Code	Model #	Description
UU011502539	052670/ DT-1135E	DT-Series (Pro2000) DT-1135E PF10 P3**
UU011546916	042870/ DT-4001E	DT-Series (Pro2000) DT-4001E GF22 A2
UU011546940	042979/ DT-4006E	DT-Series (Pro2000) DT-4006E GF32 A2B2E2K2
UU011546973	042970/ DT-4007E	DT-Series (Pro2000) DT-4007E GF32 AX
UU011502554	042670/ DT-4031E	DT-Series (Pro2000) DT-4031E CF22 A2-P3**
UU011502562	042671/ DT-4032E	DT-Series (Pro2000) DT-4032E CF22 B2-P3**
UU011502570	042674/ DT-4035E	DT-Series (Pro2000) DT-4035E CF22 A2B2-P3**
UU011502596	042799/ DT-4045E	DT-Series (Pro2000) DT-4045E CF32 A2B2E2K2-P3**
UU011546965	042770/ DT-4047E	DT-Series (Pro2000) DT-4047E CF32 AX-P3** For use with Full Face facepiece only
UU011507462	042678/ DT-4036E	DT-Series (Pro2000) DT-4036E CF22 A2B2E1-P3**
XP100547460	042568/ DT-4045E	DT-Series (Pro2000) DT-4045E CF32 A2B2E2K2-P3** Foil Bag. For use with Full facepiece only
UU011502588	042798/ DT-4046E	DT-Series (Pro2000) DT-4046E CF32 A2B2E2K2Hg-P3** For use with Full facepiece only
UU010979753	052692/ SC-6601	Pre-Filter Kit SC-6601 For DT-Series (Pro2000) filters. Includes Prefilter and Prefilter Holder
XP100544442	052693	DT-Series (Pro2000) SC-6607 Filter Covers Orange Polythylene
XP100544269	042507	Filter End Caps (1Pc)
XP100218930	5052694	Filter Shower Cover



**Provides P3 protection only with 3M Full Face Respirators. Provides P2 protection with half face piece respirators.

The importance of monitoring 3M™ Gas Diffusion Monitors.

Knowing the specific contaminant and exposure levels is important to determine the appropriate respirator, and cartridge or filter for your work environment. This information will also help in estimating the life of selected 3M™ Gas and Vapour Cartridges. If exposure levels are not known, advice and monitoring is required.

While 3M™ does not carry out exposure assessments or monitoring, we do offer 3M™ Gas Diffusion Monitors (below) which can be a useful starting point. 3M Gas Diffusion Monitors are simple and effective devices that collect certain airborne contaminants using the principle of diffusion. They assist in the assessment of exposure to workplace contaminants, both personal and background. These monitors are easy to use and simply clip onto the shirt, collar or pocket. Contact the 3M™ TechAssist Helpline for further information on chemicals which can be captured and approved laboratories for monitor analysis.



3M™ Organic Vapour Monitor 3500+

3M™ Organic Vapor Monitor 3500+ is a cost-effective and convenient way to perform personal air sampling for many organic vapors.

3M™ Organic Vapor Monitor 3500+ uses diffusion, rather than a pump, to collect an air sample with an accuracy of +/-25%, at a 95% confidence level for many workplace organic vapors, for both personal or area sampling. It contains a single charcoal sorbent wafer for easy collection of organic vapors and can be used for most applications. This monitor has a 2-year shelf life from its production date.



3M™ Ethylene Oxide Monitor 3551+

3M™ Ethylene Oxide Monitor 3551+ is a cost-effective and convenient way to perform personal air sampling for ethylene oxide.

3M™ Ethylene Oxide Monitor 3551+ uses diffusion, rather than a pump, to collect an air sample with an accuracy of +/-25% at a 95% confidence level. It has a single treated charcoal sorbent wafer for easy collection of ethylene oxide and is typically used in pharmaceutical, health care and chemical industries. This monitor has a 1-year shelf life from its production date.

3M Order Code	Model #	Description
70071765252	3500+	Organic Vapour Monitor
70071765286	3501+	Organic Vapour HIgh Sampling Monitor
70071765310	3551+	Ethylene Oxide Monitor
70071765344	3721+	Formaldehyde Monitor



3M™ Formaldehyde Monitor 3721+

3M™ Formaldehyde Monitor 3721+ is a cost-effective and convenient way to perform personal air sampling for formaldehyde and certain other aldehydes.

3M™ Formaldehyde Monitor 3721+ uses diffusion, rather than a pump, to collect an air sample with an accuracy of +/-25% at a 95% confidence level for certain aldehydes found as workplace contaminants. It has fiberglass coated with 2,4-dinitrophenylhydrazine (DNPH) for easy collection of aldehydes and is typically used in health care, laboratories, and in the chemical, pulp/paper, foundry and textile industries. This monitor has a 1-year shelf life from its production date.



3M™ Organic Vapour Monitor 3501+, High Sampling Rate

3M™ Organic Vapor High Sampling Rate Monitor 3501+ is a cost-effective and convenient way to perform personal air sampling for low levels of organic vapors and short term exposure limit (STEL) sampling.

3M™ Organic Vapor High Sampling Rate Monitor 3501+ uses diffusion, rather than a pump, to collect an air sample with an accuracy of +/-25%, at a 95% confidence level for many workplace organic vapors, for both personal or area sampling. It contains 562 sampling ports to generate high sampling rates and is designed to detect organic vapors at low concentrations or during short-term (STEL) sampling when low detection limits are important.

This monitor has a 2-year shelf life from its production date.

Monitors must be received by the testing Laboratories within the recommended holding time between sampling and lab analysis. Contact your testing laboratory for their specific laboratory request form.



Science of Safety Podcast

Keeping up to date with work safety regulations can be a challenge, that's why we've launched the 3M Science of Safety Podcast. Learn from industry leaders, technical experts, influencers and regulators, as they discuss the many topics of work health and safety.

Visit www.3m.com.au/sospodcast to explore the list of topics or listen now on one of the following platforms.

Listen on Apple Podcasts | Listen on Google Podcasts | Spotify

Like more information or looking for resources?

Would you like assistance in setting up a filter change schedule in your workplace? If yes, please email to anz3msafety@mmm.com

Quick links to get you started.

https://sls.3m.com/

We have a number of respiratory related podcast episodes. Click to listen.

Episode 49 When and why to replace your RPE filters

Other respiratory podcast links

Episode 1 Respiratory Filter Selection - Part 1
Episode 2 Respiratory Filter Selection - Part 2
Episode 17 Respiratory Protection Programs
Episode 23 Respiratory Fit Testing
Episode 70 Respiratory Protective Equipment Care & Maintenance
Episode 79 Surgical Masks v Respirators
Episode 84 RPE Protection Factors

3M Australia Pty Ltd
Bld A, 1 Rivett Road
North Ryde, NSW 2113
TechAssist Helpline: 1800 024 464
Customer Services: 1300 363 565
Email: techassist@mmm.com
3M.com.au/ppesafety

3M New Zealand Limited
94 Apollo Drive
Rosedale, Auckland 0632
TechAssist Helpline: 0800 364 357
Customer Services: 0800 252 627
Email: techassist@mmm.com
3M.com/nz/ppesafety

© 3M is a trademark of 3M Company. Please recycle. Printed in Australia. **AV011492103.**