

3M Help and Advice

Technical Service Helpline

For further advice on 3M™ Respirators and when to change 3M™ Particulate Filters and 3M™ Gas & Vapor Cartridges (or any of our other 3M Safety Products) phone our Technical Service Helpline: 1-800-243-4630.

Specialist Sales Force

You can also talk to your 3M OH&ES Sales Representative for help and advice with:

- Choosing 3M™ Respirators and when to change your 3M™ Particulate Filters and 3M™ Gas & Vapor Cartridges.
- Respirator Training Programs and Fit Testing.
- 3M can visit your worksite and help you identify activities where respirators may be needed.

3M Occupational Health & Environmental Safety Website:

Use our website to access product information and training tools at 3M.com/OccSafety.



User Information to Optimize Protection

| | |
|---|------------------|
| | ⚠ WARNING |
| <p>These respirators help reduce exposures to certain airborne contaminants. Before use, the wearer must read and understand the User Instructions provided as a part of the product packaging. A written respiratory protection program must be implemented meeting all the requirements of OSHA 1910.134 including training, fit testing and medical evaluation. In Canada, CSA standards Z94.4 requirements must be met and/or requirements of the applicable jurisdiction, as appropriate. Misuse may result in sickness or death. For proper use, see package instructions, supervisor, or call 3M OH&ESD Technical Service in USA at 1-800-243-4630 and in Canada at 1-800-267-4414.</p> | |

To Get Started, Contact Your 3M Representative:

Technical Service: 1-800-243-4630

Customer Service: 1-800-328-1667

Web: 3M.com/OccSafety



General Offices

3M Center
St. Paul, Minnesota 55144-1000

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70-0714-8870-7



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This is your guide***

The purpose of this guide is to help answer questions about the 3M™ Particulate Filters and 3M™ Gas & Vapor Cartridges that you use with your 3M™ Half Face or Full Face Reusable Respirators.

***This booklet is designed to be a guide only. For specific advice on 3M Respiratory Products (e.g., choosing a 3M Respirator, Fit Testing, and when to change your 3M™ Particulate Filters and 3M™ Gas & Vapor Cartridges) call 3M Technical Service Helpline at 1-800-243-4630 or talk to your 3M OH&ES Sales Representative.



What types of 3M™ Filters & Cartridges are there?

3M™ Particulate Filters:

Filters only particles (i.e., dust, mists and fumes, aerosols, smoke, mold, bacteria and so on).



3M™ Gas & Vapor Cartridges:

Filters only gases and vapors. There are different kinds of cartridges for different kinds of gases and vapors.



3M™ Combination Cartridge/Filters:

Filters both particles, gases, and vapors. Different combination particulate/cartridge filters are used depending on the gas or vapor present in the air.



Why do I need to replace my 3M™ Filters regularly?

Particulate filters capture particles and it can be harder to breathe through and less comfortable.

How do 3M™ Particulate Filters work?

3M™ Particulate Filters

These filters are enhanced with electrostatically charged fibers to trap particulates within the filter media.

As particulate filters load up with the contaminant, they typically become more efficient, however, they also become harder to breathe through.

NIOSH has nine classifications for particulate filters based on minimum filtration efficiency and the type of aerosol (non-oil or contains oil). The chart below shows the nine classifications.

Filter classifications, efficiencies, oil resistances and challenge agents specified under 42 CFR part 84

42 CFR part 84

Oil Resistance Categories

| Minimum Efficiency | N Non-oil Aerosols | R Includes oil Aerosols* | P Includes Oil Aerosols** |
|--------------------|--------------------------|--------------------------------|---------------------------------|
| 95% | N95 | R95 | P95 |
| 99% | N99 | R99 | P99 |
| 99.97% | N100 | R100 | P100 |

* May have a time use restriction on this filter series when oil aerosols are present.

** Use according to manufacture's time use restrictions when oil aerosols are present.

When do I replace my 3M™ Particulate Filters?



Replace 3M™ Particulate Filters when:

- It becomes difficult to breathe comfortably (this will vary from individual to individual).
- The filter becomes dirty or physical damage occurs.
- If used in environments containing oil aerosols, dispose of P-Series filters after 40 hours of use or 30 days, whichever is first.

How do 3M™ Gas & Vapor Cartridges work?

3M™ Gas & Vapor Cartridges

These cartridges rely on sorbent material to absorb the gas or vapor molecules. Typically the sorbent is activated carbon. Different chemical treatments may also be added to the surface of the activated carbon to adsorb different types of gases or vapors. When the cartridges reach their capacity, the gases or vapors start to come through the cartridge to the user. This is called “breakthrough.”

NIOSH uses a classification system to identify the different types of contaminants these treated carbon grains will capture.

Color Coding for 3M™ Chemical Cartridges

| | | | |
|------|----------------------------|-------------|---|
| 6001 | Organic Vapor | Black |  |
| 6002 | Acid Gases | White |  |
| 6003 | Organic Vapor/Acid Gases | Yellow |  |
| 6004 | Ammonia/Methylamine | Green |  |
| 6005 | Formaldehyde/Organic Vapor | Olive/Black |  |
| 6006 | Multi-Gas/Vapor | Olive |  |
| 6009 | Mercury Vapor/Chlorine Gas | Orange |  |

When do I Replace 3M™ Gas & Vapor Cartridges?

The service life (i.e., how long it will last) of any gas and vapor cartridge is affected by many factors: contaminant, contaminant concentration, breathing rate, humidity level, temperature, and other use conditions.

Replace 3M™ Gas & Vapor Cartridges:

- When the cartridge is beyond its expiration date.
- In accordance with your established change schedule or government regulation.
- When the contaminant can be detected inside the respirator by smell or taste.

To avoid using your 3M™ Gas & Vapor Cartridges beyond its service life, take the following steps:

- Before use, check the expiration date of your 3M™ Gas & Vapor Cartridges.
- Write the date on the cartridges when first removed from the pack.
- Change in accordance with your established cartridge change schedule or government regulation.
- If at any time you smell or taste the contaminant or irritation is detected, leave the contaminated area immediately and try adjusting your respirator and/or change the respirator cartridges.
- Take note of how long the cartridges lasted by comparing the date recorded on the cartridges with the current date.

For specific advice on when to change 3M™ Particulate Filters and 3M™ Gas & Vapor Cartridges talk to your 3M OH&ES Sales Representative or call the 3M Technical Service Helpline 1-800-243-4630.

Frequently Asked Questions



What is the shelf life of 3M™ Cartridges?

Provided they are stored unopened in the original packaging, away from direct sunlight, humidity and sources of high temperature, cartridges will last five years from manufacture date. See use by data on packaging.

How should I store my 3M™ Respirator Cartridges and Filters?

When not in use, your 3M™ Respirator, Cartridges and Filters should be kept clean, cool and dry, away from contaminated atmospheres to avoid deterioration. Store cartridge in a sealed container or bag.

Why do I need to use a 3M™ Particulate Filter with my 3M™ Gas & Vapor Cartridges for some applications?

The particulate filter removes the tiny droplets or particles in the air (e.g., mists from spray painting). The gas and vapor cartridges do not filter these particles.

What is a Fit Test?

Because everyone's face is different, a fit test is used to determine an adequate seal between the edge of a respirator and the face of the wearer. OSHA requires this to be done before the respirator is first issued and then at least annually.

Can I wear a tight-fitting respirator with a beard?

OSHA requires respirator wearers be clean-shaven. Do not use a tight-fitting respirator with beards or other facial hair or other conditions that prevent a good seal between the face and the faceseal of the respirator.

Which 3M™ Particulate Filters do I need?

3M™ Particulate Filters

3M™ Particulate Filters 2000 Series and 7093 Series can be attached directly to 3M™ Respirators with bayonet connections, or used on approved respirators with 3M™ 6000 Series Cartridges using the 502 Filter Adapter. 3M™ 5000 Series Filters are attached to 5000 Series Respirators or 6000 Series Cartridges using the 501 Filter Retainer.



| Product Code | Description | Classification | |
|--------------|---|----------------|---|
| 2071 | NIOSH approved for environments containing certain oil and non-oil based particles. | P95 |  |
| 2076HF | NIOSH approved for hydrogen fluoride and certain oil and non-oil based particles. 3M recommended for relief against nuisance levels* of acid gases. | P95/HF |  |
| 2078 | NIOSH approved for environments containing certain oil and non-oil based particles. 3M recommended for relief against nuisance levels* of organic vapor/acid gases and for ozone protection up to 10 times OSHA PEL. Not NIOSH certified for use against ozone. | P95 |  |
| 2091 | NIOSH approved for environments containing certain oil and non-oil based particles. | P100 |  |
| 2096 | NIOSH approved for environments containing certain oil and non-oil based particles. 3M recommended for relief against nuisance levels* of acid gases. | P100 |  |
| 2097 | NIOSH approved for environments containing certain oil and non-oil based particles. 3M recommended for relief against nuisance levels* of organic vapors and ozone protection up to 10 times OSHA PEL. Not NIOSH certified for use against ozone. | P100 |  |
| 2291 | NIOSH approved for environments containing certain oil and non-oil based particles. | P100 |  |

* Nuisance level refers to concentrations below current OSHA PELs.

3M™ Particulate Prefilters, continued



| Product Code | Description | Classification | |
|--------------|--|---|---|
| 2296 | NIOSH approved for environments containing certain oil and non-oil based particles. 3M recommended for relief against nuisance level acid gas. | P100 |  |
| 2297 | NIOSH approved for environments containing certain oil and non-oil based particles. 3M recommended for relief against nuisance level organic vapors. | P100 |  |
| 5N11 | NIOSH approved for environments containing certain non-oil based particles. Use with 3M™ Respirators 5000 Series or 3M™ Cartridges 6000 Series, and 3M™ Filter Retainer 501. | N95 |  |
| 5P71 | NIOSH approved for environments containing certain oil and non-oil based particles. Use with 3M™ Respirators 5000 Series or 3M™ Cartridges 6000 Series, and 3M™ Filter Retainer 501. | P95 |  |
| 7093 | NIOSH approved for environments containing certain oil and non-oil based particles. | P100 |  |
| 7093C | NIOSH approved for hydrogen fluoride and certain oil and non-oil based particles. 3M recommended for relief against nuisance levels* of organic vapor/ acid gases. | P100/HF |  |
| 501 | Use to hold 3M™ Particulate Filters 5N11 and 5P71/07194(AAD) in place on top of 3M™ Respirators 5000 Series and 3M™ Cartridges 6000 Series. | For use with 5N11 and 5P71 |  |
| 502 | Use to attach 3M™ Particulate Filters 2000 Series and 7093 to 3M™ Respirators 5000 Series and 3M™ Cartridges 6000 Series. | For use with 2000 Series and 7093/7093C filters |  |
| 603 | Platform used to connect 5000 Series Particulate Filters only to the respirator. Also need a 501 filter retainer. | |  |

* Nuisance level refers to concentrations below current OSHA PELs.

Which 3M™ Gas & Vapor Cartridges do I need?

3M™ Gas & Vapor Cartridges

The cartridge and filter replacement plan implements a process that helps employees replace their cartridges and filters at the appropriate time. To help establish how frequently cartridges should be replaced, visit <http://csrv.3M.com/csrv> to access 3M™ Service Life Software. To establish filter replacement frequency, visit www.3M.com/filterchange. Contact your 3M Sales Representative if you have questions on the timing of cartridge or filter replacements.



| Product Code | Description | Classification | |
|--------------|---|----------------|--|
| 6001 | NIOSH approved against certain organic vapors. Use with 3M™ Half and Full Facepieces 6000 Series and 3M™ Half and Full Facepieces 7000 Series with bayonet style cartridge holders. | OV |   |
| 6002 | NIOSH approved against certain acid gases. Use with 3M™ Half and Full Facepieces 6000 Series and 3M™ Half and Full Facepieces 7000 Series with bayonet style cartridge holders. | AG |   |
| 6003 | NIOSH approved against certain organic vapors or acid gases. Use with 3M™ Half and Full Facepieces 6000 Series and 3M™ Half and Full Facepieces 7000 Series with bayonet style cartridge holders. | OV/AG |   |
| 6004 | NIOSH approved against ammonia and methylamine. Use with 3M™ Half and Full Facepieces 6000 Series and 3M™ Half and Full Facepieces 7000 Series with bayonet style cartridge holders. | A/MA |   |

The 6001, 6002, 6003, 6004, 6005, 6006, and 6009 cartridges are available with the P100 prefilter as a combination filter/cartridge.

3M™ Gas & Vapor Cartridges, continued



| Product Code | Description | Classification | | |
|--------------|---|----------------|---|---|
| 6005 | NIOSH approved against formaldehyde and certain organic vapors. Use with 3M™ Half and Full Facepieces 6000 Series and 3M™ Half and Full Facepieces 7000 Series with bayonet style cartridge holders. | Form/OV |  |  |
| 6006 | NIOSH approved against certain organic vapors, acid gases, ammonia, methylamine or formaldehyde. Use with 3M™ Half and Full Facepieces 6000 Series and 3M™ Half and Full Facepieces 7000 Series with bayonet style cartridge holders. | Multi-G/V |  |  |
| 6009 | NIOSH approved against mercury vapor or chlorine. Use with 3M™ Half and Full Facepieces 6000 Series and 3M™ Half and Full Facepieces 7000 Series with bayonet style cartridge holders. | Hg/Cl |  |  |
| 60921 | NIOSH approved against certain organic vapors and particulates. Use with 3M™ Half and Full Facepieces 6000 Series and 3M™ Half and Full Facepieces 7000 Series with bayonet style cartridge holders. | OV/P100 |  |  |
| 60923 | NIOSH approved against certain organic vapors, acid gases and particulates. Use with 3M™ Half and Full Facepieces 6000 Series and 3M™ Half and Full Facepieces 7000 Series with bayonet style cartridge holders. | OV/AG/P100 |  |  |
| 60926 | NIOSH approved against certain organic vapors, acid gases and particulates. Use with 3M™ Half and Full Facepieces 6000 Series and 3M™ Half and Full Facepieces 7000 Series with bayonet style cartridge holders. | Multi-G/V/P100 |  |  |