3M Organic Vapor/Acid Gas Cartridge, Respiratory Protection

Model : 6003

Product Details

- NIOSH approved for protection against certain organic vapors or acid gases
- Swept-back design allows an enhanced field of view and comfort
- Bayonet compatibility allows use with many 3M half and full facepiece designs
- Wide range of applications reduces inventory needs
- Simple installation and usage requirements reduce training needs

The 3M™ Organic Vapor/Acid Gas Cartridge 6003 helps provide respiratory protection against certain organic vapors or acid gases. Use with 3M™ Half and Full Facepieces 6000, 7000 and FF-400 Series with bayonet filter holders.

The 3M™ Organic Vapor/Acid Gas Cartridge 6003 helps provide organic vapor and acid gas protection in a variety of environments. When properly used with an approved 3M respirator properly fitted, this respirator cartridge helps provide respiratory protection from certain organic vapors, chlorine, hydrogen chloride, sulfur dioxide, chlorine dioxide, hydrogen sulfide, or hydrogen fluoride. The cartridge may be used for vapor concentrations up to 10 times the Permissible Exposure Limit (PEL) with half facepieces or 50 times PEL with quantitatively fit tested full facepieces. Recommended applications for the cartridge include assembly and mechanical, batch-charging, change-overs, chemical dispensing, clean-up, cleaning, handling, painting, parts cleaning, pesticide application, powder, and seal coating. Inventory needs and training requirements for safety equipment are reduced because this respirator cartridge selection works for many different applications. This cartridge is commonly used in the following industries: agriculture, aluminum reduction, chemical manufacturing, laboratories, petrochemical, pharmaceuticals, pulp and paper, and utilities.

This organic vapor and acid gas cartridge works with 3M™ Half and Full Facepieces 6000, 7000 and FF-400 Series with bayonet holders. The cartridge is NIOSH (National Institute for Occupational Safety and Health) approved for environments containing certain organic vapors and acid gases. This cartridge is not for use in environments that are immediately dangerous to life or health (IDLH). The cartridge has been assigned the color code “Yellow” in the NIOSH system.

Breathing organic vapors or acid gases can pose a risk to your health. NIOSH, a Federal government regulatory agency, has tested and approved the 3M™ Organic Vapor/Acid Gas Cartridge 6003 to help reduce exposure to certain organic vapors and acid gases.

Specifications

THADHANI®
The Experts in Safety... Since 1947

Accessories	Yes
Brand	3M™
Cartridge or Filter Type	Gas and Vapor
Case Quantity	60/case
Clip-on Welding Shield	Yes
Color Family	Yellow
Compatible Respirator	3M™ Full Facepieces 6000, 3M™ Full Facepieces 7800 Series, 3M™ Full Facepieces FF-400, 3M™ Half Facepiece Reusable Respirators 6000 Series, 3M™ Half Facepiece Reusable Respirators 6500 Series, 3M™ Half Facepiece Reusable Respirators 7500 Series, 3M™ Half Facepiece Reusable Respirators 7800 Series
Compatible with 3M™ PAPR Systems	Yes
Compatible with 3M™ Supplied Air System	Yes
Compatible with Welding Shield	Yes
Connection Type	Bayonet
Cool Flow™ Exhalation Valve	Yes
Drop-down Feature	Yes
Enhanced Comfort	Yes
Enhanced Durability	Yes
Eye Protection	Yes
Features	Low Profile
For Use With	Reusable Respirators
Gas & Vapor Protection Type	Organic Vapor/Acid gas
Hazard Type	Dust, mist, fumes, gases or vapours and combination hazards, Organic Vapor
Maintenance Free	No
Market	Maritime, Defense, Homeland Security
National Stock Number	4240013422859
Nuisance Odor Relief (< OSHA PEL)	N/A
Overall Height (Imperial)	3.4 in, 3.4 in
Overall Length (Imperial)	4.2 in
Particulate Protection	Organic Vapor
Product Color	Yellow
Product Type	Cartridge
	Chlorine, Chlorine Dioxide, Hydrogen Chloride, Hydrogen Fluoride, Hydrogen Sulfide, Organic Vapors, Sulfur

Protection Focus	**Dioxide**
Protection Type	**Organic Vapor**
Purpose	**Cartridges & Filters**
Recommended Application	**Assembly and Mechanical, Batch-Charging, Change-Overs, Chemical Clean-up, Chemical Dispensing, Chemical Manufacturing, Clean-up, Cleaning, Composite Finishing, Fertilizing, Final Finish, Finishing Operations, Handling, Laboratories, Maintenance, Manufacturing, Paint Preparation, Painting, Parts Cleaning, Pesticide Application, Pharmaceuticals, Pouring Molten Metal, Powder, Seal Coatings, Welding**
Recommended Industry	**Facility Sanitation, Food Processing, Food Safety, General Manufacturing, Marine, Mining, Oil & Gas, Transportation**
Segment	**Personal Safety**
Silicone Faceseal	**Yes**
Six-point Head Harness	**Yes**
Spare Parts	**Yes**
Speaking Diaphragm	**Yes**
Standards/Approvals	**Chlorine, Chlorine Dioxide, Hydrogen Chloride, Hydrogen Fluoride, Hydrogen Sulfide, Organic Vapors, Sulfur Dioxide**

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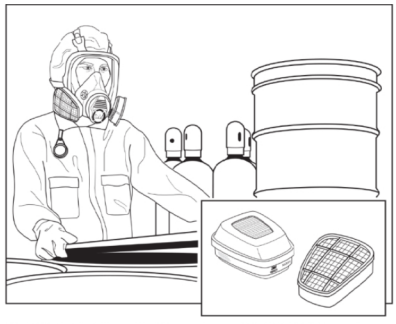
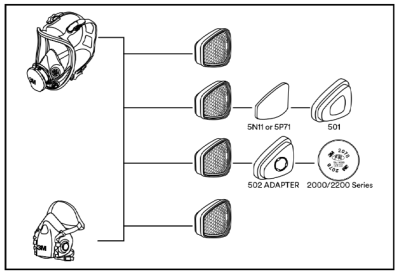


3M™ Multi Gas/Vapor Cartridges shown with 3M™ Full Facepiece 6000 Series and 3M™ Organic Vapor Monitor 3510.



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How an Organic Vapor Respirator Cartridge Works

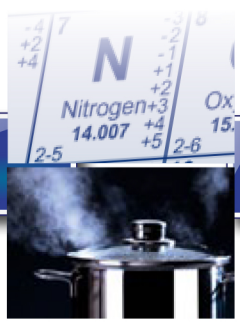
3M makes organic vapor respirator cartridges to help reduce user exposure to many different organic vapors.

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 that help adsorb various organic vapors. These micropores can be measured and optimized for specific product needs and performance.

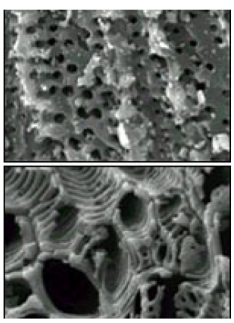
Coal or renewable resources, such as coconut shells

Coal or renewable resources are heated without oxygen



High-temperature steam or nitrogen activation

High-grade activated carbon



Electron micrographs of activated carbon pores

When organic vapors are drawn through an organic vapor cartridge, the air is filtered as vapors condense into the carbon pores. Vapors move through the cartridge from one pore to the next. This occurs more quickly for small volatile vapors with lower boiling points (e.g., acetone). Some migration of organic vapors can even occur during storage, so care must be taken before reusing the cartridge. The effective service life is the time until vapors 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; end-of-service-life indicator; taste, smell, or irritation from the contaminant; or according to 3M™ Service Life Software calculation, whichever comes first.

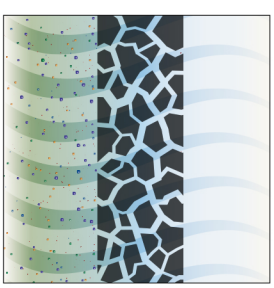
Factors that influence service life:

- Exposure concentration
- Temperature
- Humidity (water vapor takes up space in carbon pores)
- Breathing rate

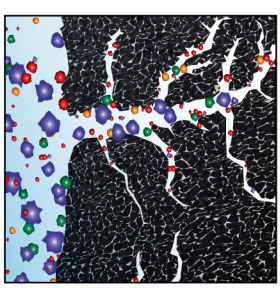
Activated carbon by itself cannot adsorb other types of gases or vapors such as acid gases, ammonia, formaldehyde, etc. In some cases, additional metals and salts are added to the carbon to selectively remove these compounds. For this reason, 3M offers a variety of cartridges and facepieces to help protect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

3M is committed to develop quality safety products to help protect workers. For more information about 3M organic vapor cartridges, please read Technical Data Bulletin #142 "Reuse of Organic Vapor Chemical Cartridges" at www.3M.com/PPESafetySolutions.

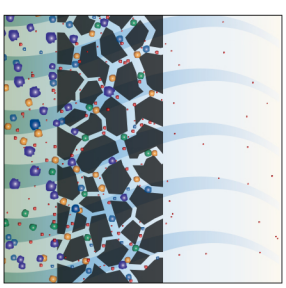
To establish a cartridge change schedule, visit www3.3M.com/SLSWeb/index.html.



Unfiltered organic vapors are drawn into the cartridge.



Activated carbon adsorbs organic vapors on molecular level.



Service life continues until vapors begin to escape the cartridge.

⚠WARNING These respirators help protect against 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 packaging instructions, supervisor, or call 3M OH&ESD Technical Service in USA at 1-800-243-4630 and in Canada at 1-800-267-4414.