

Organic Vapor Monitor Measures Contaminants

A monitor that measures time-weighted average (T.W.A.) concentrations of organic vapors in work areas has been introduced by 3M's Occupational Health & Safety Products Division.

The 3M Brand Organic Vapor Monitor, Model 3500, is worn near the breathing zone of personnel who work in potentially hazardous organic vapor environments. The unit, the size of a silver dollar, measures T.W.A. concentrations over an interval of approximately eight hours.

For use in a wide range of industries including the petro-chemical industry, the paint coating industry, and in the manufacturing of plastics, synthetic rubber and paint, the monitor allows the

presence and concentration of organic vapors such as benzene, toluene, acetone, xylene and acrylonitrile to be determined.

The contaminant is adsorbed by a charcoal wafer in the monitor. The monitor is then used as an analytical device, and the analysis is performed by lab personnel using techniques similar to those outlined in NIOSH Physical and Chemical Analytical Method 127 for charcoal tubes.

Analytical assay is correlated to environmental contaminant concentrations using data supplied by 3M. The resulting parts per million T.W.A. concentration of the organic compound can then be calculated.

To speed and assure analysis consistency, 3M offers a Monitor Analytical Service that provides complete gas chromatographic analysis.

At 3M, samples will be carefully analyzed and a written confidential report on each monitor returned to the customer. 3M offers 72-hour lab turnaround time. The corrugated shipping box in which the monitors are initially packaged also serves as a ready-to-use return mailing carton to 3M.



3M brand Organic Vapor Monitor, Model 3500, is worn near the breathing zone of personnel who work in a potentially hazardous organic vapor environment (left). The unit is about the size of a silver dollar. Above, it is shown with the closure cap which seals the sample.

Spray Paint Respirator Offers Dependability, Comfort, Economy

A spray paint respirator that is effective against particulates and organic and isocyanate vapors generated during painting has been introduced by 3M's Occupational Health and Safety Products Division.

The 3M brand Spray Paint Respirator No. 8711 provides respiratory protection against airborne concentrations of paints and coatings containing not more than one part per million (1.0 ppm) free isocyanate.

Designed for limited use periods, the No. 8711 is disposable and priced to make replacement economical. A spray painter simply discards it when used to capacity.

The low profile half-mask design offers a wider field of vision than dual cartridge respirators. Painters can safely see where they are going and what they are painting. Glasses, safety goggles and face-shields can be worn easily with the respirator.

3M Offers Training Program to Help Meet Respirator Training Requirements of OSHA

A series of sound-slide presentations for training employees on the proper use and maintenance of 3M brand disposable respirators is available from 3M's Occupational Health and Safety Products Division.

The programs are designed for use by safety directors, industrial hygienists and others with training responsibilities.

Training Program

The No. 8711 is not a mask, but a respirator with a built-in filter of activated carbon between the molded interliner and exterior shell. The three part combination provides both efficiency and protection.

Like other 3M respirators, the No. 8711 has the same wide headbands and sawtoothed buckles to prevent headband slippage.

A soft plastic sealing ring provides secure but comfortable facial fit. A flexible nosepiece with extra foam cushion also assures an excellent seal against vapor and particulate penetration around the respirator.

The respirator is lightweight for worker comfort. At two ounces, it's the lightest spray paint respirator available.

The respirator should not be used by individuals who have known respiratory problems or have ever had a reaction to isocyanates.

Included in the series are programs on the No. 8710 non-toxic particle respirator, the No. 9900 toxic dust respirator, the No. 9910 dust/mist respirator and five gas and vapor respirators.

Each presentation consists of an audio cassette with recorded narration, a printed copy of the narration and a Carousel slide tray with between 60 and 80 slides per presentation. Each single-product presentation costs \$100 per copy; the program on the line of gas and vapor respirators costs \$150.

For further information contact Carole Sustak, OH&SP Division, 3M, 3M Center, St. Paul, MN. 55101

Respirator Protects Against Dust, Mist

A lightweight respirator that protects against dust and mist, including those containing asbestos, is available from 3M's Occupational Health and Safety Products.

One of the lightest respirators available to industry, the 3M brand Dust/Mist Respirator No. 9910 weighs a feather-light ¼ ounce. Users hardly know it's on while they work.

NIOSH/MSHA approval (TC-21C-190) covers dusts and mists with a time weighted average (T.W.A.) not less than 0.05 milligram per cubic meter of air.

It protects against such dusts as coal, arsenic, cadmium, chromium, lead and manganese; or dusts having an air contamination level not less than 2 million particles per cubic foot of air, such as aluminum, flour, iron ore and free silica, resulting principally from the disintegration of a solid. This includes dust clouds produced in mining, quarrying and tunneling, and in dust produced during industrial operations, such as grinding, crushing or the general processing of minerals and other materials.

The respirator protects against mists having an air contamination level not less than 0.05 milligram per cubic meter, or 2 million particles per cubic foot — mist produced by spray coating with vitreous enamels, chromic acid mist produced during chromium plating and other mists of materials whose liquid vehicle does not produce harmful gases or vapors. It also protects against coke oven emissions.

Designed as a reusable respirator, the No. 9910 offers protection for three eight-hour work shifts with simple cleaning.

3M 101009

3M Designs Full Line of Gas/Vapor Respirators



3M's family of gas/vapor respirators are designed as lightweight, low-on-the-nose half-masks that allow a wide field of vision. Included in the line are the Ammonia/Methylamine Respirator No. 8727 (left); the Organic Vapor Respirator No. 8712, the Vinyl Chloride Respirator No. 8716 and the Organic Vapor/Acid Gas Respirator No. 8725 (center row, top to bottom) and the Acid Gas Respirator No. 8714 (right).

In response to widespread demand, 3M has designed a full line of gas/vapor respirators that are comfortable to wear, dependable and economical.

They are the only line of respirators that require no maintenance, repair or sanitation. And there is no necessity for a costly inventory of spare parts and cartridges.

Each respirator is backed by a decade of research in 3M laboratories. It has been designed to be a respirator that workers will wear.

Included in the line are Organic Vapor Respirator No. 8712, Acid Gas Respirator No. 8714, Vinyl Chloride Respirator No. 8716, Organic Vapor/Acid Gas Respirator No. 8725 and Ammonia/Methylamine Respirator No. 8727.

The respirators are designed as lightweight, low-on-nose half-

masks that allow a wide field of vision. Workers can easily see where they are going, what they are doing.

Glasses and safety goggles may be worn with these respirators, and the soft face pieces fit most face shapes easily and comfortably. The respirators have tamper-proof exhaust valves, and are of lightweight unitary construction.

They have sturdy elastic straps with sawtoothed buckles to prevent loosening and slipping from proper position during excessive head or body movement.

- The Organic Vapor Respirator No. 8712 offers respiratory protection against those organic vapors with good warning properties in concentrations up to 1,000 parts per million (ppm). Tested and approved by NIOSH/MSHA (TC-23C-123), this respirator and the others, have unique, built-in chemical

cartridges that eliminate accidental cartridge switching.

- The Acid Gas Respirator No. 8714 has NIOSH/MSHA approval (TC-23C-129) that now includes chlorine (Cl_2) gas in concentrations up to ten ppm. The respirator is also approved for respiratory protection from hydrogen chloride (HCL) and/or sulfur dioxide (SO_2) gases in concentrations up to 50 ppm.

Each entire respirator is color-coded; supervisors can easily see if workers are wearing the correct unit for the environment.

- The Vinyl Chloride Respirator No. 8716 has received NIOSH approval (TC-23C-200) for protection from vinyl chloride monomer at a concentration up to 10 ppm. It has a visible end-of-service-life indicator that turns from purple to brown, eliminating worry about effectiveness.

These lightweight (8.5 oz/241.1 g.) respirators have low resistance to air flow to help minimize breathing fatigue. The one-size facepiece also eliminates the need for inventorying a large variety of units.

- The Organic Vapor/Acid Gas Respirator No. 8725 is NIOSH/MSHA approved for protection up to 1,000 ppm organic vapors with good warning properties and/or up to 10 ppm chlorine and/or up to 50 ppm hydrogen chloride and/or up to 50 ppm sulfur dioxide.
- The Ammonia/Methylamine Respirator No. 8727 is NIOSH/MSHA approved for protection up to 300 ppm ammonia and/or up to 100 ppm methylamine.

3M 101010

Hard Hat, Shroud Assembly Protects Workers from Contaminants

A new hard hat and shroud assembly designed to protect workers from head injuries and airborne contaminants during spray painting, bagging, buffing, chemical mixing, pesticide application and other tasks has been introduced by 3M's Occupational Health & Safety Products Division.

The 3M brand Hardcap Model 2860 consists of a high-density, impact-resistant polyethylene hat shell with adjustable head suspension, a laminated polyethylene and Tyvek® shroud with wide-angle viewing window and draw-string closure, and an air inlet tube for connection to a 3M brand Air Regulating Valve; A Vortex or Vortemp® assembly or a powered air purifier assembly.

The disposable shroud is secured to the lower part of the hat shell with 3M Scotch brand Adhesive

Transfer Tape. Air is channeled from the air inlet tube at the back of the shroud into the shroud hem, and is vented in the front, just below the window, to defog the window as air is supplied to the user.

The new Hardcap assembly is especially suitable for use with 3M brand Vehicle Mount Powered Air Purifiers Models W-2008 and W-2801, and the 3M brand Backpack Powered Air Purifier Model 2009.

Both the hat shell and the shroud are resistant to acids, alkalies, most organic solvents and salts, weather and rotting. Both may be cleaned with soap and water, vacuuming and other means.

Additional information is available from the Occupational Health & Safety Products Division, Department OH9-4, 3M, P.O. Box 33600, St. Paul, MN 55133.

'Softcap' Systems Offer Respiratory Protection Against Dust, Vapors, Fumes

3M brand Softcap Systems provide respiratory protection in an environment containing airborne contaminants such as dust, spray mist, vapors and fumes. Models W-275, W-276 and W-277 are particularly recommended for spray painting.

The Softcap Systems consist of a lightweight plastic cap with a detachable head suspension and a laminated polyethylene Tyvek® shroud with a clear polyester window. It also includes either a flexible breathing tube and belt with a 3M brand Air Regulating Valve; a Vortex or Vortemp® assembly, or powered air purifier assembly.

Air enters the Softcap by means of the breathing tube connecting to the air inlet tube of the shroud. The air is channeled to the front of the unit where the opening allows the air to escape upward

into the breathing zone of the wearer. A positive pressure is created within the Softcap, sealing the wearer off from contamination in the outside environment.

The detachable shroud, held in place by Scotch brand Adhesive Transfer Tape, allows the shroud and window to be easily replaced without having to replace the entire cap and head suspension system.

Half-Mask Respirator System Maintenance-Free

Respiratory protection against dusts, mists, fumes, vapors, smoke and gases in concentrations not immediately hazardous to life or health can be provided by the 3M brand W-298 Half-Mask Airline Respirator System.

Applications include paint spraying, welding and cleaning.

Respirable compressed air using from 4.5 to 8 cfm at 6 to 22 psig is delivered to the half-mask through a high pressure hose and tube assembly. Air flow to the wearer can be tailored for maximum comfort by adjusting the pressure within the allowable range.

The mask fits comfortably, is maintenance-free and is approved by NIOSH/MSHA (TC-19C-123). The mask can be worn under a welder's face shield or can be worn with glasses or goggles.

For more information on the half-mask face piece, the high pressure hose, breathing tube and breathing tube assembly and belt, contact the Occupational Health & Safety Products Division/3M, P.O. Box 33600, St. Paul, MN 55133.

**For Further Information
On Respirators, Monitors
Contact 3M
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