

3M Safety Products



for Homeland Security and Public Health Personnel



PLANNING | PROTECTION | PEACE OF MIND

Being Alert, Well-Trained And Well-Equipped Is The Best Policy And The Best Defense

We don't know what the next emergency will be or when or where it will occur. And we don't know if it will be an act of nature or at the hand of man. But we know that it will happen. As a nation we must prepare as well as we possibly can for that inevitability.

Homeland security and preparedness is the task of every level of government and it impacts, directly or indirectly, every person in the country. We must all take responsibility in watchfulness and preparation.

Recent events around the world and right here in our country have confirmed the critical need for personnel training and overall readiness, as well as having the proper equipment and supplies in the right quantities to handle any emergency that may occur.

These are uncertain times but our approach to Public Safety and Public Health should be firm and confident. Personnel who are on the front line of response, cleanup and relief need the best training, overall readiness and the best equipment to do their job.

3M products and services are a vital component of homeland security preparedness and operations all around the world. We supply a wide variety of products and services including specialized respirators for Chemical, Biological, Radiological, Nuclear (CBRN) applications, respirators for cleanup, protective eyewear, hearing protection products, sorbents and a range of services for training, staffing and supply management.

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⚠ Important

Before using these respirators, you must determine the following:

1. If there is sufficient oxygen present.
2. The type of contaminant(s) for which the respirator is being selected.
3. The concentration level of the contaminant(s).
4. Whether the respirator can be properly fitted on the wearer's face.
All respirator instructions, warnings and use and time limitations must also be read and understood by the wearer before use.

See page 15 in this brochure for Product WARNINGS.



3M™ Filtering Facepiece Respirators*

	3M™ Health Care Particulate Respirator and Surgical Mask 1860. Minimum 95% filter efficiency. (NIOSH N95 approved). Features a soft inner shell for enhanced comfort. Reduces potential exposure to blood and other body fluids. Meets CDC guidelines for TB exposure control. Not for use in atmospheres containing oil aerosols.
	3M™ Health Care Particulate Respirator and Surgical Mask 1860S. Designed for people with smaller faces. Minimum 95% filter efficiency. (NIOSH N95 approved). Features a soft inner shell for enhanced comfort. Reduces potential exposure to blood and other body fluids. Meets CDC guidelines for TB exposure control. Not for use in atmospheres containing oil aerosols.
	3M™ Particle Respirator 8000, N95. Minimum 95% filter efficiency. This is an economical product that is designed for light-duty or short duration work in dusty environments. Features adjustable noseclip. Not for use in atmospheres containing oil aerosols.
	3M™ Particulate Respirator 8110S, N95. Designed for people with smaller faces. Minimum 95% filter efficiency. Features adjustable noseclip and soft nose foam pad that help provide a custom fit and secure seal. Not for use in atmospheres containing oil aerosols.
	3M™ Particulate Respirator 8210, N95. Minimum 95% filter efficiency. Features adjustable noseclip and soft nose foam pad that help provide a custom fit and secure seal. Not for use in atmospheres containing oil aerosols.
	3M™ Particulate Respirator 8210Plus, N95. Minimum 95% filter efficiency. Comfortable braided straps with staple-free attachment. Not for use in atmospheres containing oil aerosols.
	3M™ Particulate Respirator 8233, N100. Minimum 99.97% filter efficiency. Features adjustable straps, 3M™ Cool Flow™ Exhalation Valve for cool and dry comfort, and face seal. Not for use in atmospheres containing oil aerosols.
	3M™ Particulate Respirator 8271, P95. Minimum 95% filter efficiency. Features M-noseclip, 3M™ Cool Flow™ Exhalation Valve for cool and dry comfort, and face seal.
	3M™ Particulate Respirator 8293, P100. Minimum 99.97% filter efficiency. Features adjustable straps, 3M™ Cool Flow™ Exhalation Valve for cool and dry comfort, and face seal.
	3M™ Particulate Respirator 8511, N95. Minimum 95% filter efficiency. Features M-noseclip, 3M™ Cool Flow™ Exhalation Valve for cool and dry comfort, and face seal. Not for use in atmospheres containing oil aerosols.
	3M™ Particulate Respirator 8577, P95. Minimum 95% filter efficiency. 3M recommended for relief against nuisance level organic vapor.** Features 3M™ Cool Flow™ Exhalation Valve for cool and dry comfort.
	3M™ Particulate Respirator 9210, N95. Minimum 95% filter efficiency. Features unique 3-panel design, soft nose foam pad and advanced electret media. Conforms to a wide range of faces. Folds flat for easy storage and portability. Individually packaged. Not for use in atmospheres containing oil aerosols.
	3M™ Particulate Respirator 9211, N95. Minimum 95% filter efficiency. Features unique 3-panel design, soft nose foam pad, advanced electret media and 3M™ Cool Flow™ Exhalation Valve. Conforms to a wide range of faces. Folds flat for easy storage and portability. Individually packaged. Not for use in atmospheres containing oil aerosols.



Hurricanes Katrina and Rita caused much devastation and hardship.

3M products have always been essential during times of emergencies. The tragedies of the 2005 hurricanes are good examples. 3M products, including the 3M™ Particulate Respirator 8577, were found to be extremely useful and effective for emergency workers during the relief and cleanup stages. Such products helped keep workers safe, more comfortable and allowed them to do their jobs knowing that their 3M respirator was helping protect them from the types of airborne contaminants found in the wake of such disasters.

*These respirators can help reduce inhalation exposures to certain airborne biological particles (e.g. mold, Bacillus anthracis, Mycobacterium tuberculosis, etc.) but cannot eliminate the risk of contracting infection, illness or disease. OSHA and other government agencies have not established safe exposure limits for these contaminants.

**Nuisance levels refer to concentrations below the OSHA PEL/OEL or applicable exposure limits, whichever is lower.



3M™ Full Facepiece Respirator FR-7800B – Reliability And Comfort For CBRN Applications



This product was designed specifically for homeland security personnel and features a low-profile design to help improve comfort.

The facepiece is certified for CBRN applications when used with 3M™ Canister FR-15-CBRN. This product positions 3M as one of the leaders in innovative products for personal safety.

- Facepiece is NIOSH CBRN-approved with 3M canister FR-15-CBRN (TC-14G-0271).
- Also NIOSH-approved with 3M™ Canister CP3N for use against CS, CN and as a P100 filter (TC-14G-0251) in riot conditions, including those with teargas.
- Lens meets ANSI Z87+ Standard, providing high-impact protection. This facepiece can be used as primary eye protection.
- Lens has optical correction to minimize left-to-right visual distortion.
- Available in small, medium and large sizes.
- Helps provide security, safety and comfort for the user.
- Butyl rubber seal to help resist permeation of warfare agents.
- Canister can be mounted on either side of the facepiece to help enable weapon sighting.
- Newly designed exhalation valve cover to help protect the valve against chemical agents.



NIOSH's CBRN Standard

3M now offers two full facepiece products (3M™ Full Facepieces FR-M40B and FR-7800B) that meet NIOSH's Chemical, Biological, Radiological, Nuclear (CBRN) Standard for full facepiece air-purifying respirators. They have been tested and certified by NIOSH for use against many warfare agents including sarin and sulfur mustard as well as many industrial chemicals. They also meet the P100 particulate efficiency standard making them versatile, effective and reliable for handling the kinds of emergencies that are faced by homeland security personnel.

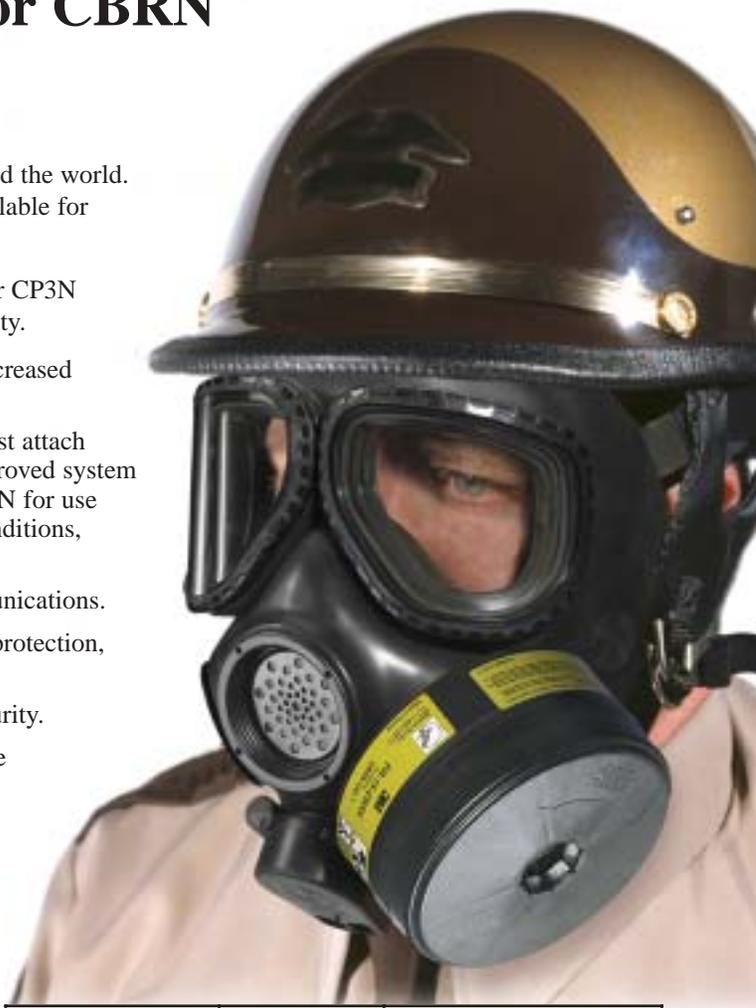


3M™ Full Facepiece Respirator FR-M40B – Exceptional Performance For CBRN Emergency Response

The M-40 full facepiece is used by U.S. Armed Forces all around the world. It has been modified by 3M for easier breathing and is now available for CBRN applications.

The facepiece with 3M™ Canister FR-15-CBRN or 3M™ Canister CP3N puts 3M at the forefront of innovative products for personal safety.

- Soft silicone face seal material helps provide a better fit and increased wearer comfort.
- Assembled with second skin and eyepiece outserts in place. Just attach 3M canister FR-15-CBRN and you have a NIOSH CBRN-approved system (TC-14G-0271). Also NIOSH-approved with 3M canister CP3N for use against CS, CN and as a P100 filter (TC-14G-0251) in riot conditions, including those with tear gas.
- Two integral speaking diaphragms help provide clearer communications.
- Butyl rubber second skin helps provide enhanced permeation protection, which means greater user security.
- Dual ocular lens for enhanced personnel performance and security.
- Patented filtration technology used in our canister results in the optimum combination of easy breathing, lighter weight, service life and general comfort.
- Canister can be mounted on either side of the facepiece for easier, more accurate weapon sighting.
- Canister has a shelf life of 5 years.
- Drinking tube connection for use in non-contaminated areas.
- Available with an optional quick doff hood.



The Key Is The Canister

As a “Cap 1” approved canister, the 3M™ Canister FR-15-CBRN is tested by NIOSH to have a minimum test life of 15 minutes against various contaminants at different concentrations. Gas life tests are performed at 25° C; 25 and 80 percent relative humidity; and a flow rate of 64 liters per minute. The canister also has a minimum service life of 5 minutes when tested at a flow rate of 100 liters per minute, 50 percent relative humidity and 25° C for many gases/vapors. Service life in actual use may be shorter or longer depending on many factors including contaminant concentration.

For complete test results, call the 3M Occupational Health and Environmental Safety Division’s Fax On Demand Service at 1-800-646-1655 and request document number 9020.

Agent	Test Concentration (ppm)	Breakthrough Concentration (ppm)
Ammonia	2500	12.5
Cyanogen Chloride	300	2
Cyclohexane ¹	2600	10
Formaldehyde	500	1
Hydrogen Cyanide	940	4.7 ²
Hydrogen Sulfide	1000	5.0
Nitrogen Dioxide	200	1ppm NO ₂ or 25 ppm NO ³
Phosgene	250	1.25
Phosphine	300	0.3
Sulfur Dioxide	1500	5

¹ Cyclohexane is representative of all organic vapors with a vapor pressure less than or equal to cyclohexane.

² Sum of HCN and C.N.

³ Nitrogen Dioxide breakthrough is monitored for both NO₂ and NO. The breakthrough is determined by which chemical, NO₂ or NO, reaches breakthrough first.

For more information please visit 3M web site www.3M.com/OccSafety/TechData. See *Technical Data Bulletin Number 159: Recommended Use of CBRN Full Facepiece Air Purifying Respirators* and *Technical Data Bulletin Number 162: Recommended Use of the 3M™ Canister FR-15-CBRN Against Various Military and Industrial Chemical Agents*.



3M Offers Many Respirator Options For Homeland Security Personnel



3M™ Full Facepiece
6700, 6800, 6900

3M respirators offer comfort, convenience, flexibility and effectiveness...just what you'd expect from an industry leader. Our facepieces with a choice of filters help provide wearers the protection needed for many different emergency situations. These facepieces are available in small, medium and large sizes.



3M™ Half Facepiece
6100, 6200, 6300



3M™ Half Facepiece
7501, 7502, 7503



3M™ Particulate
Filter 2091, P100



3M™ Particulate
Filter 2097, P100*,**
with Nuisance Level
Organic Vapor Relief



3M™ Particulate
Filter 7093, P100

* 3M recommended for ozone protection up to 10 x OSHA PEL.
This product is not NIOSH approved for ozone protection.
** Nuisance level refers to concentrations below the current OSHA PELs.



3M™ Qualitative Fit Test
Apparatus FT-10, Sweet



3M™ Qualitative Fit Test
Apparatus FT-30, Bitter

3M equipment and procedures help provide a simple, direct way to meet OSHA qualitative fit testing requirements. Our fit test products can be used with any particulate or gas/vapor respirator with a particulate prefilter to test face-to-respirator seal. The equipment helps satisfy respiratory program requirements and is easy to use during respiratory training.

3M fit tests work by spraying either a sweet or bitter solution into the hood environment. If the person being tested does not detect the test agent's taste, an acceptable fit has been demonstrated.



3M™ Air-Mate™ High Efficiency Powered Air Purifying Respirator

Air-Mate™ systems incorporate the blower, filter and battery into a compact and lightweight belt-mounted unit for respiratory protection against airborne particulates. These respirators are used extensively in hospitals and in public health applications by health care workers.

- Can be used with either lightweight head cover or hood* made of Tychem® QC. The head cover/hood gives the user a wide field of vision and directs positive airflow into the breathing zone.
- Tychem is a registered trademark of DuPont.
- The breathing tube connects the blower unit to the head cover/hood.
- The blower unit is a belt-mounted, lightweight package that combines the filter, battery and motor. It pushes air through the filter and breathing tube to the wearer's head cover/hood.
- Replacement filters are High Efficiency (HE) type with a 99.97% efficiency.
- Can be worn with facial hair and glasses. Facial hair must not interfere with face seal.
- No fit testing is required prior to wearing.

* For use up to 1000 x PEL for hoods and 25 x PEL for head covers or applicable OSHA or other government exposure limits, whichever is lower.



3M™ Breathe Easy™ (BE) 10 PAPR With Butyl Rubber Hood



Breathe Easy™ PAPR systems help provide comfortable, efficient powered air protection. The BE-10 system, in combination with the 3M™ Cartridge FR-57, helps protect the wearer against gases, vapors and/or particulates.

- The lightweight butyl rubber hood* helps provide protection, excellent mobility and visibility.
* Contains natural rubber latex.
- Butyl rubber meets MIL-C-51251A for resistance to chemical agents.
- Provides continuous air flow.
- The belt-mounted power unit is lightweight and comfortable.
- Can be used with rechargeable Nickel Metal Hydride (NiMH) battery or disposable Lithium battery.
- The hood can be worn with facial hair and glasses.
- No fit testing is required prior to wearing.
- For use with the cartridge FR-57.
- Approximate weight is 8 lbs.



3M™ RRPAS™ Rapid Response Powered Air Systems

When fast response to an emergency is required, you'll want equipment that is not only effective but easy to transport and to put on so that you can get to the job of helping people faster and more securely. That's exactly what our rapid response systems offer.

3M™ RRPAS™ 6000 Series

- Components are stored in a unique carrying bag that transforms into a vest with the PAPR in place and ready for use.
- Use with 3M™ Canister FR-40 and 3M™ Cartridge FR-57.
- Helps provide exceptional comfort and mobility.
- The vest/bag allows fast and easy donning.
- Easy to use fasteners allow fast adjustment to individual sizes.



A belt-mounted system is available for those who have their own vest or prefer to use without a vest.



3M™ Full Facepiece Respirator 6000DIN Series offers the flexibility for use in either negative or positive pressure applications. It can be used with 3M™ Cartridge CP3N for teargas agents and with 3M™ Cartridge FR-64 for military and industrial materials.



3M™ Air-Mate™ SCBAG™ Self-Contained Breathing Apparatus (SCBA) Is Uniquely Innovative



This SCBA is totally unique with all components stored in a carrying bag that converts into a vest with everything in place and ready to wear.

- Completely portable.
- Can be donned in seconds.
- The lightweight harness has shoulder and back padding for greater comfort.
- Continuous chest size adjustment up to 58" to fit most wearers.
- The vest/bag allows fast and easy donning.
- The vest distributes weight evenly for added comfort.
- Great for confined spaces and emergency use.
- Optional airline connection for extended time usage.
- Hoop-wrapped, 30-minute cylinder is positioned for ideal weight distribution and easy valve access.
- The full facepiece is based on 3M's innovative technologies.
- Lightweight and comfortable to wear.
- Features a quarter-turn pressure-demand valve with first-breath activation.
- Facepiece available in small, medium and large sizes.



Selection Chart For Homeland Security Applications

3M Product	Product Description	Appropriate for Level ¹	Suggested Applications ²
Page 3 Filtering Facepiece Respirators	Negative-pressure, filtering facepiece respirators	C	When properly fitted, use when concentrations are less than 10 x PEL
Pages 4, 5 and 6 Negative Pressure Respirators Full Facepiece	Negative-pressure, full facepiece air-purifying respirators	C	When properly fitted, use when concentrations are less than 50 x PEL for full facepiece when quantitatively fit tested, otherwise 10 x PEL
Page 6 Negative Pressure Respirators Half Facepiece	Negative pressure half facepiece air-purifying respirators	C	When properly fitted, use when concentrations are less than 10 x PEL
Page 7 3M™ Air-Mate™ PAPR	Belt-mounted PAPR with loose-fitting head cover and hood	C	Health care, patient care
Page 8 3M™ Breathe Easy™ PAPR	Belt-mounted PAPR with loose-fitting butyl rubber hood	C	Response in non-IDLH ⁴ environments, medical evacuation, spill cleanup, decontamination, law enforcement
Page 9 3M™ RRPAS™ Systems	Vest-mounted/belt-mounted PAPR with tight-fitting full facepiece	C	Response in non-IDLH ⁴ environments, medical evacuation, spill cleanup, decontamination, law enforcement
Page 10 3M™ Air-Mate™ SCBAG™ SCBA ⁵	Vest mounted, 30 minute, pressure-demand SCBA	B	Emergency response in IDLH ³ , oxygen deficient and unknown environments

¹ Level B requires the highest level of respiratory protection – a pressure-demand, full facepiece Self-Contained Breathing Apparatus (SCBA), or combination pressure-demand supplied air respirator with escape SCBA, approved by NIOSH. Level C allows that properly selected, air-purifying respirators can be worn providing that the concentration(s) and type(s) of airborne substance(s) are known and the criteria for using air-purifying respirators are met [atmosphere is NOT Immediately Dangerous to Life or Health (IDLH) and NOT oxygen deficient].

² Respirators must be properly selected for each concentration and type of airborne substance.

³ IDLH is an atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.

⁴ Non-IDLH – one which is not IDLH, is not oxygen deficient and where the concentration(s) and type(s) of airborne substance(s) are known.

⁵ Systems not approved with a pass-through device.

Use Limitations

1. Failure to comply with all instructions and warnings on the use of these products and/or failure to wear the respirator during all times of exposure may reduce respirator effectiveness and result in **serious bodily injury, sickness or death**.
2. Never alter or modify this respirator.
3. Repair or replace respirator parts if they become damaged or worn. Use appropriate 3M parts **only**.
4. DO NOT use air-purifying respirators when concentrations of contaminants are unknown or Immediately Dangerous to Life or Health (IDLH).
5. Use of the equipment described in this catalog should be in accordance with applicable safety and health standards, respirator selection tables contained in such publications as ANSI Z88.2-1992, or pursuant to the recommendations of an industrial hygienist.
6. If you have any doubts about the applicability of the equipment to your job situation, it is recommended you consult an industrial hygienist or call 3M Occupational Health and Environmental Safety Division, Technical Service Department, 1-800-243-4630.



Ordering Information

3M Product Number	National Stock Number	Product Description	NIOSH Approval Number*
Air-Mate™ Powered Air Purifying Respirator (PAPR) Systems			
BE-12-3 / BE-12B-3		Air-Mate Head Cover, White / Blue (Regular)	TC-21C-675
BE-12L-3 / BE-12LB-3		Air-Mate Head Cover, White / Blue (Large)	TC-21C-675
BE-10-3		Air-Mate Hood, White (Regular)	TC-21C-635
BE-10L-3		Air-Mate Hood, White (Large)	TC-21C-635
231-01-30		Air-Mate PAPR Unit (Includes Air Filter Unit, Battery Pack, HE Filter, Belt and Airflow Indicator)	See Head Covers
BE-224		Air-Mate Breathing Tube Assembly	See Head Covers
GVP-117		Air-Mate Waist Belt, Vinyl	See Head Covers
Air-Mate™ SCBAG™			
BA-4430-S / BA-4430-M / BA-4430-L		SCBAG Self-Contained Breathing Apparatus (SCBA) (Small) / (Medium) / (Large)	TC-13F-454
BA-4530-S / BA-4530-M / BA-4530-L		SCBAG Self-Contained Breathing Apparatus (SCBA) w/Airline (Small) / (Medium) / (Large)	TC-13F-454
Breathe Easy™ (BE) 10 Butyl Rubber Hood Systems			
FR-57N10		Breathe Easy 10 with Butyl Rubber Hood, NiMH Battery and Cartridge FR-57	See Cartridge
FR-57L10		Breathe Easy 10 with Butyl Rubber Hood, Lithium Battery and Cartridge FR-57	See Cartridge
RRPAS™ 6000 Series			
FR-40L68		RRPAS Rapid Response Powered Air Purifying Respirator System, 6800DIN Lithium Battery and Canister FR-40	See Canister
FR-57N68		RRPAS Rapid Response Powered Air Purifying Respirator System, 6800DIN NiMH Battery and Cartridge FR-57	See Cartridge
FR-57L69		RRPAS Rapid Response Powered Air Purifying Respirator System, 6900DIN Lithium Battery and Cartridge FR-57	See Cartridge
FR-57N69		RRPAS Rapid Response Powered Air Purifying Respirator System, 6900DIN NiMH Battery and Cartridge FR-57	See Cartridge
FR-40N68		RRPAS Rapid Response Powered Air Purifying Respirator System, 6800DIN NiMH Battery and Canister FR-40	See Canister
FR-40L69		RRPAS Rapid Response Powered Air Purifying Respirator System, 6900DIN Lithium Battery and Canister FR-40	See Canister
FR-57L68		RRPAS Rapid Response Powered Air Purifying Respirator System, 6800DIN Lithium Battery and Cartridge FR-57	See Cartridge
FR-40N69		RRPAS Rapid Response Powered Air Purifying Respirator System, 6900DIN NiMH Battery and Canister FR-40	See Canister
Cartridge and Canister for Breathe Easy™ (BE) 10 and RRPAS™ 6000 Series			
453-03-02R06	4240-01-480-1387	Cartridge FR-57: Both	TC-23C-2071, TC-23C-2072
453-03-03R06	4240-01-480-1386	Canister FR-40: RRPAS only	TC-14G-0261
Batteries and Charger for Breathe Easy™ (BE) 10 and RRPAS™ 6000 Series			
BP-15		NiMH Rechargeable Battery Pack BP-15	Component
BC-210		Charger BC-210 for BP-15 only	Component
520-04-57R01		Lithium Disposable Battery Pack 520-04-57R01	Component
Half Facepieces 6000 and 7500 Series			
6100 / 6200 / 6300		Half Facepiece 6100 (Small) / 6200 (Medium) / 6300 (Large)	See Cartridges
7501 / 7502 / 7503		Half Facepiece 7501 (Small) / 7502 (Medium) / 7503 (Large)	See Cartridges
Full Facepieces 6000DIN, FR-7800B and FR-M40B Series			
FR-7800B-S	4240-01-314-2780	Full Facepiece FR-7800B (Small)	See Cartridges
FR-7800B-M	4240-01-342-5239	Full Facepiece FR-7800B (Medium)	See Cartridges
FR-7800B-L	4240-01-301-3200	Full Facepiece FR-7800B (Large)	See Cartridges
6700DIN	4240-01-479-1593	Full Facepiece 6000DIN – Silicone (Small)	See Cartridges
6800DIN	4240-01-479-1598	Full Facepiece 6000DIN – Silicone (Medium)	See Cartridges
6900DIN	4240-01-479-1597	Full Facepiece 6000DIN – Silicone (Large)	See Cartridges
FR-M40B-10 / FR-M40B-20 / FR-M40B-30		Full Facepiece FR-M40B-10 (Small) / FR-M40B-20 (Medium) / FR-M40B-30 (Large)	See Cartridges
Full Facepiece 6000 Series			
6700 / 6800 / 6900		Full Facepiece 6700 (Small) / 6800 (Medium) / 6900 (Large)	See Cartridges
Cartridges and Canisters for 6000DIN, FR-7800B and FR-M40B Air-Purifying, Negative Pressure Facepieces			
450-02-11R06	4240-01-418-2634	Canister CP3N for 6000DIN, FR-7800B, FR-M40B	TC-14G-0251
FR-C2A1		Cartridge FR-C2A1 for FR-M40B only	TC-84A-3281
FR-15-CBRN		Canister FR-15-CBRN for FR-7800B and FR-M40B only	TC-14G-0271
FR-64		Cartridge FR-64 for FR-M40B, 6000DIN only	TC-84A-3717
Filters and Cartridges for Half Facepieces 6000 and 7500 Series and Full Facepiece 6000 Series			
2091		Filter 2091, P100	TC-84A-0022
2097		Filter 2097, P100	TC-84A-1033
7093		Filter 7093, P100	TC-84A-0071
60926		Cartridge 60926, P100 Multi Gas	TC-84A-0510
Filtering Facepiece Respirators			
1860		Health Care Particulate Respirator and Surgical Mask 1860	TC-84A-0006
1860S		Health Care Particulate Respirator and Surgical Mask 1860S	TC-84A-0006
8000		Particle Respirator 8000, N95	TC-84A-3981
8110S		Particulate Respirator 8110S, N95	TC-84A-0007
8210	4240-01-429-2685	Particulate Respirator 8210, N95	TC-84A-0007
8210Plus		Particulate Respirator 8210Plus, N95	TC-84A-0007
8233	4240-01-452-8348	Particulate Respirator 8233, N100	TC-84A-1298
8271	4240-01-247-5686	Particulate Respirator 8271, P95	TC-84A-1166
8293	4240-01-475-8293	Particulate Respirator 8293, P100	TC-84A-2561
8511	4240-01-247-2348	Particulate Respirator 8511, N95	TC-84A-1299
8577	4240-01-452-8331	Particulate Respirator 8577, P95 with Nuisance Level Organic Vapor Relief	TC-84A-1166
9210		Particulate Respirator 9210, N95	TC-84A-2669
9211		Particulate Respirator 9211, N95	TC-84A-2668

*NIOSH approval numbers apply to whole systems only. NIOSH approval numbers apply only to system and cartridge or filter listed. Systems used in configurations other than those listed may have separate NIOSH approval numbers; please see product insert.



Technical Information: Cartridges/Canisters

3M™ Cartridges and Canisters for Air-Purifying Respirators for Homeland Security Applications

Air-purifying respirators (APR) can be used when the contaminant and concentration are known and below Immediately Dangerous to Life or Health (IDLH) limits and sufficient oxygen is present. The Maximum Use Concentration (MUC) in which an APR can be utilized is the product of the assigned protection factor (APF) multiplied by the airborne exposure limit (such as the TLV®). This number however must be lower than the IDLH, otherwise the IDLH becomes the MUC.

Respirator	3M System	APF
Negative Pressure, Full Facepiece APR	Full Facepiece Respirator FR-M40B, Full Facepiece Respirator 6000, Full Facepiece Respirator FR-7800B	50 ¹
PAPR with Hood, Helmet, or Tight-Fitting Full Facepiece	Breathe Easy™ (BE) 10 Butyl Rubber Hood, BE 10 and 6000 RRPAS™	1000

3M Cartridge or Canister – NIOSH Approvals²

								
			CP3N	FR-C2A1	FR-64	FR-40	FR-57	FR-15-CBRN
Negative Pressure Applications			*	*	*	*	*	*
PAPR Applications						*	*	*
NIOSH Approvals	TLV³	IDLH Limit⁴						
Organic Vapors	*	*			*	*	*	*
Sulfur Dioxide	2 ppm TWA 5 ppm STEL	100 ppm		*	*	*	*	*
Hydrogen Chloride	5 ppm C	100 ppm		*	*	*	*	*
Chlorine	0.5 ppm TWA, 1 ppm STEL	30 ppm		*	*	*	*	*
Chlorine Dioxide	0.1 ppm TWA 0.3 ppm STEL	10 ppm		*	*	*	*	*
Hydrogen Fluoride	3 ppm C	30 ppm		*	*	*	*	*
Ammonia	25 ppm TWA, 35 ppm STEL	500 ppm		*	*	*	*	*
Methylamine	5 ppm TWA 15 ppm STEL	100 ppm		*	*	*	*	*
Formaldehyde	0.3 ppm C	30 ppm		*	*	*	*	*
Hydrogen Sulfide (escape) ⁵	10 ppm TWA 15 ppm STEL	300 ppm		*	*	*	*	*
Phosphine	0.3 ppm 1 ppm STEL	200 ppm		*	*	*	*	*
CN ⁶	0.3 mg/m ³ TWA	101 mg/m ³	*	*	*	*	*	*
CS ⁶	0.39 mg/m ³ C	1.9 mg/m ³	*	*	*	*	*	*
P100 Particulates ⁵	*	*	*	*	*	*	*	*
High Efficiency (HE) Particulate ⁷	*	*				*	*	*

3M Cartridge or Canister – Common Military Agents²

Negative Pressure Applications			*	*	*	*	*	*
PAPR Applications						*	*	*
Military Specification Testing⁸	TLV³	IDLH Limit⁴						
Diethyl Methylphosphonate (DMMP) ⁹	NA	NA		*	*	*	*	*
Hydrogen Cyanide	4.7 ppm C	50 ppm		*	*	*	*	*
Cyanogen Chloride	0.3 ppm C	ND		*	*	*	*	*
Chloropicrin	0.1 ppm TWA	4 ppm		*	*	*	*	*
Phosgene	0.1 ppm TWA	2 ppm		*	*	*	*	*
CN ⁶	0.3 mg/m ³ TWA	101 mg/m ³	*	*	*	*	*	*
CS ⁶	0.39 mg/m ³ C	1.9 mg/m ³	*	*	*	*	*	*
	OASG limit value¹⁰	OASG limit value¹⁰						
Sarin (GB)	0.0001 mg/m ³	> 0.2 mg/m ³		*	*	*	*	*

TWA = time weighted average, C = Ceiling Limit, STEL = short term exposure limit, NA = not applicable, ND = not determined

* Limits depend on specific contaminant. However, exposure limits have been set for particulates not otherwise classified (PNOC) and particulates not otherwise regulated (PNOR).

¹ APF applies only when respirator has been quantitatively fit tested. If fit tested qualitatively, an APF of 10 applies.

² Assumes that the criterion for using air-purifying respirators is met: the agent and concentration are known and are below maximum use concentrations and IDLH limits and sufficient oxygen is present.

³ TLV = threshold limit value from the American Conference of Governmental Industrial Hygienists. ACGIH Threshold Limit Values and Biological Exposure Indices, 2000.

⁴ IDLH = Immediately Dangerous to Life or Health limit. NIOSH Pocket Guide to Chemical Hazards. 1990. DHHS (NIOSH) Publication No. 90-117.

⁵ H₂S escape only and P100 approvals are available for negative pressure, air-purifying respirators only.

⁶ CN, CS approvals are available for tight-fitting, air-purifying respirators only. They are not available for respirators with loose-fitting headgear such as hoods or helmets.

⁷ High Efficiency (HE) particulate filter approval is available for PAPRs only.

⁸ 3M Respirators are not NIOSH approved for these agents. There are no NIOSH approval schedules for DMMP, GB, hydrogen cyanide, cyanogen chloride, chloropicrin, and phosgene. See footnote 6 for explanation of CN and CS.

⁹ DMMP is a common surrogate test agent for the nerve agents.

¹⁰ TLV and IDLH Limit values have not been established for sarin. The values listed for sarin (GB) are the airborne exposure limit and the limit for which an SCBA is the only acceptable respiratory protection. The Office of the US Army Surgeon General (OASG) established these values.

3M™ Safety Products Are Used Worldwide For Response, Relief And Cleanup



The purpose of these products is to help keep homeland security personnel safer and more comfortable as they perform their jobs. No matter what the work— first response, relief or cleanup after an emergency—it requires that the proper gear, equipment and supplies be readily available for the personnel who are charged with the task. 3M safety products are on the job.

3M™ Protective Eyewear

- Available in several styles and designs.
- In addition to providing safety, our protective eyewear is comfortable and fashionable.
- Meets the requirements of ANSI Z87.1-2003 Standard as high impact protectors.
- Wraparound design helps provide side protection.



3M™ Sorbent Products

- 3M sorbent products are used extensively for emergencies involving chemical or petroleum-based liquids.
- 3M™ Chemical Sorbents will sorb petroleum-based fluids, many chemicals and aqueous-based solutions.
- Our sorbents provide an economical and effective way to help cleanup after a disaster.
- Dust-free and contain no abrasive granules.
- Lightweight, versatile and easy to handle.



3M™ Hearing Protection Products

- 3M offers a range of ear plugs and ear muffs to help protect the hearing of those who are working during emergencies or helping with reconstruction.
- These products are comfortable to wear for long periods of time.
- Our products have Noise Reduction Ratings that range from 20dB to 28dB.*
- Our hearing protection products will help prevent long-term hearing loss due to exposure to a variety of noises.



* Research suggests that the NRR may overestimate the protection provided by hearing protectors during typical use. 3M recommends reducing the NRR by 50% for estimating the amount of noise reduction provided.

3M™ Avagard™ D Instant Hand Antiseptic with Moisturizers

- Helps protect workers who are involved in cleanup after an emergency.
- Broad-spectrum activity kills more than 99% of harmful bacteria within 15 seconds (including MRSA and VRE antibiotic-resistant bacteria).
- Unique rich emollient base feels smooth on the hands.
- Doesn't leave hands sticky and does not impact glove performance.



Product Warnings



⚠️ **WARNING** : Negative Pressure Respirators

These respirators help reduce exposure to certain airborne contaminants. **Misuse may result in sickness or death.** Before use, the wearer must read and understand *User Instructions* provided as a part of product packaging. Time use limitations may apply. For proper use, see supervisor, packaging or call 3M OH&ESD Technical Service at 1-800-243-4630. In Canada call 1-800-267-4414.



⚠️ **WARNING** : Positive Pressure Respirators

These respirators help reduce exposure to certain airborne contaminants. Use of 3M Positive Pressure Respirators by untrained or unqualified persons, or use not in accordance with the instructions, may adversely affect product performance and **result in sickness or death.**

3M positive pressure respirators are to be used only by qualified persons properly trained in their use and maintenance, and only in accordance with their operating and maintenance manuals. Each person using these products must first read and understand the operator's manual. See supervisor for assistance or call 3M Technical Service at 1-800-243-4630. In Canada, call 3M OH&ESD at 1-800-267-4414.

⚠️ **WARNING** : Protective Eyewear

These safety products provide limited protection only. Do not use when performing torch burning, torch cutting, torch welding, electric (arc) welding, furnace corrections, molten metals operations, or any other operations which expose your eyes to harmful levels of infrared and ultra-violet radiation. **Misuse or failure to follow warnings and instructions may result in serious personal injury, including blindness, or death.** For proper use, see supervisor, product instructions and warnings or call 3M OH&ESD Technical Service at 1-800-243-4630. In Canada, call 1-800-267-4414.

⚠️ **WARNING** : Hearing Protection Products

These hearing protection products help prevent hearing loss against certain noises. To provide proper protection, the hearing protector should be (1) suitable for the job, (2) fitted properly in/on the ear, (3) worn during all times of exposure to noise, and (4) replaced when damaged or otherwise necessary. Failure to fit and use hearing protectors according to these instructions will reduce their effectiveness. Failure to wear hearing protectors 100% of the time that you are exposed to hazardous noise may dramatically increase your risk of developing hearing loss. Keep ear plugs away from infants and small children. They may get caught in a child's windpipe. For more information, call 3M OH&ESD Technical Service at 1-800-243-4630. In Canada, call 1-800-267-4414.

⚠️ **WARNING** : Sorbents

Failure to properly handle and dispose of sorbents contaminated by hazardous materials can result in serious physical injury or death and/or environmental harm. For proper handling, consult the Material Safety Data Sheet for the material absorbed, applicable safety and health standards, contact your supervisor, or call 3M.



3M Offers Services That Can Help In Training Personnel And Managing Resources

3M™ Health And Safety Services:

On-Line Solutions To Help Personnel Be Safer On The Job

Medical Evaluations

Employers are required by OSHA to provide a respirator medical evaluation to persons who may be required to use a respiratory protection device. 3M offers an On-Line Respirator Medical Evaluation which allows respirator users to quickly complete an interactive OSHA medical questionnaire using any computer with Internet access. Results are provided immediately. This is an easy-to-use method to have employees evaluated and prepared to use respirators when needed.

3M™ Respiratory Protection e-Training

3M Respiratory Protection e-Training is an on-line, interactive service that uses the latest techniques to help maximize learning. It is customizable and allows access to training records, training curriculum and test results at any time. It is a standardized training method that meets OSHA, NIOSH and ANSI requirements.

For additional information on either of these services, please visit www.respexam.com or call **1-800-383-3393**.

Respiratory Fit Testing Service - Both Qualitative and Quantitative

3M can help you meet your respiratory compliance needs for annual respirator fit testing, as required by OSHA Respiratory Protection Standard 29 CFR 1910.134. Our on-site services and trained technicians can help improve productivity and reduce downtime resulting from off-site employee testing.

For More Information

In U.S., contact:

Technical Assistance
1-800-243-4630
Order Placement
1-800-752-3623
Sales Assistance
1-800-328-1667
Fax On Demand
1-800-646-1655
Internet
www.3M.com/OccSafety
Material Safety Data Sheets (MSDS)
1-651-737-7222

In Canada, contact:

3M Canada Company
OH&ESD
P.O. Box 5757
London, Ontario N6A 4T1
Technical Assistance (Canada only)
1-800-267-4414
Sales Assistance
1-800-265-1840, ext. 6137
Fax On Demand
1-800-646-1655
Internet
www.3M.com/CA/OccSafety
1-800-3M-HELPS
(1-800-364-3577)

3M™ Demand Planning Tools

3M™ Mass Clinic Demand Planner

The 3M Mass Clinic Demand Planner is an interactive planning tool designed to help you make critical decisions on the volume and type of supplies required to set-up and operate your dispensing or vaccination clinic.



Matching the stockpiles mix to the unique profile of the regional public health system is a prerequisite to good planning—one size does not fit all.

3M™ Surge Capacity Demand Planner

The 3M Surge Capacity Demand Planner can calculate needed surge resources and associated Minimum Levels of Readiness. The demand planner can be customized to fit your existing plans or perform what-if analyses to investigate various surge scenarios corresponding to your Hazard Vulnerability Analysis. Based on the latest federal requirements, the demand planner can help you make decisions regarding your needed surge for stockpiles in areas such as personal protective equipment, decontamination and medical supplies.

3M Worldwide, World Class

3M develops, manufactures and markets over 50,000 different consumer, commercial, industrial and health care products. We have manufacturing operations in 60 countries and do business in more than 200 countries. 3M can help you achieve corporate goals, meet and exceed government standards, simplify and improve the lives of your employees, and contribute to a safe, healthy and sustainable work environment.



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