

# 3M Canister FR-15-CBRN

## *User Instructions*

Important: Keep these *User Instructions* for reference



### **WARNING**

This canister helps reduce exposure to certain airborne contaminants but does not eliminate exposure or the risk of contracting disease or infection. **Misuse may result in sickness or death.** For proper use, see supervisor or *User Instructions*, or call 3M in U.S.A., 1-800-243-4630. In Canada, call Technical Service at 1-800-267-4414.

## Important

Before use, the wearer must read and understand these *User Instructions* and the *User Instructions* enclosed with the facepiece. Keep these instructions for future reference.

## Use For

The 3M™ Canister FR-15-CBRN is approved with the 3M™ Full Facepiece FR-M40; 3M™ Eyepiece Outsert, Clear FR-M40-1 or Eyepiece Outsert, Gray FR-M40-2; and 3M™ Second Skin, Small FR-M40-5 or the Second Skin, Medium/Large FR-M40-6 as a 15 minute negative pressure air purifying chemical, biological, radiological and nuclear (CBRN) respirator. It is designed to help provide respiratory protection against certain industrial gases, vapors and particles as well as chemical, biological and radiological airborne contaminants when used in accordance with all use and limitation instructions and applicable safety and health regulations.

## Do Not Use For

Concentrations of contaminants that are immediately dangerous to life or health (IDLH) or are unknown or when concentrations exceed the use limitations for the respirator specified in OSHA standards or applicable government regulations, whichever is lower. May be used to escape from IDLH environments as long as there is adequate oxygen to support life.

Concentrations of contaminants greater than 50 times the PEL or airborne exposure limit if quantitative fit testing (QNFT) has been utilized or 10 times the PEL or airborne exposure limit if qualitative fit testing (QLFT) has been utilized or concentrations above the IDLH limit, whichever is lower.

Not approved for use without the clear or gray eyepiece outserts; and small or medium/large second skin. Not approved for use with the standard Military M-40 Chemical Biological Mask.

## Use Instructions

1. Failure to follow all instructions and limitations on the use of this canister and/or failure to wear the respirator during all times of exposure can reduce respirator effectiveness and **may result in sickness or death.**
2. Before occupational use of this canister, a written respiratory protection program must be implemented meeting all the requirements of OSHA 29 CFR 1910.134 such as training and fit testing, and applicable OSHA substance specific standards. In Canada, CSA standard Z94.4 requirements must be met.
3. The airborne contaminants which can be dangerous to your health include those so small that you cannot see them.
4. Leave the contaminated area immediately and contact supervisor if you smell or taste contaminants or if dizziness, irritation, or other distress occurs.
5. Store the canister and respirator away from contaminated areas when not in use.

## Use Limitations

1. This canister does not supply oxygen. Do not use in atmospheres that are oxygen deficient (<19.5% oxygen).
2. Do not alter, abuse or misuse this canister or respirator.
3. Do not use respirator with beards or other facial hair or other conditions that prevent direct contact between face and respirator face seal.

## Time Use Limitations

1. For use with particulates: The 3M™ Canister FR-15-CBRN meets the requirements for a P100 particulate filter (99.97% filtration efficiency). If canister becomes damaged, soiled, or breathing becomes difficult, leave the contaminated area immediately and replace the canister. If used in

environments containing oily aerosols, dispose of canister after 40 hours of use or 30 days, whichever is first.

- For use with chemical contaminants: The useful service life of chemical canisters will depend upon the activity of the wearer (breathing rate); the specific type, volatility and concentration of the contaminants; and environmental conditions such as humidity and temperature. The canister is tested by NIOSH to have a minimum service life of 15 minutes against the contaminants shown in Table 1. 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 each of the gases/vapors in Table 1.

**Table 1. Canister Test Challenge and Test Breakthrough Concentrations**

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

<sup>1</sup> Sum of HCN and C<sub>2</sub>N<sub>2</sub>.

<sup>2</sup> Nitrogen Dioxide breakthrough is monitored for both NO<sub>2</sub> and NO. The breakthrough is determined by which quantity, NO<sub>2</sub> or NO, reaches breakthrough first.

**Note:** cyclohexane is representative of all organic vapors with a vapor pressure less than or equal to cyclohexane.

Replace canister in accordance with an established change schedule or earlier if smell, taste or irritation from contaminants is detected. If a change schedule has not been developed do not enter contaminated area. See supervisor. For guidance on development of change schedule, please see the 3M OH&ESD web site (<http://www.mmm.com/occsafety/>) or contact 3M Technical Service in U.S.A. at 1-800-243-4630, in Canada at 1-800-267-4414. If a change schedule cannot be developed, supplied air respirators are required.

- For use with chemical warfare agents: The 3M™ Full Facepiece FR-M40 is CBRN approved when used with the 3M™ Eyepiece Outsert, Clear FR-M40-1 or 3M™ Eyepiece Outsert, Gray FR-M40-2; 3M™ Second Skin, Small FR-M40-5 or 3M™ Second Skin, Medium/Large FR-M40-6; and 3M™ Canister FR-15-CBRN. This assembly is tested by NIOSH to have a minimum service life of at least 8 hours against 50 mg/m<sup>3</sup> distilled sulfur mustard (HD) vapor or 210 mg/m<sup>3</sup> Sarin (GB) vapor. It also has a service life of at least 2 hours against 0.43 ml of HD liquid. The respirator should not be used beyond eight (8) hours after initial exposure to chemical warfare agents to avoid possibility of agent permeation. If liquid exposure is encountered, the respirator should not be used for more than two (2) hours.

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## **CAUTION**

Direct contact with CBRN agents requires proper handling of the respirator after each use and between multiple entries during the same use. Decontamination and disposal procedures must be followed. If contaminated with liquid chemical warfare agents, dispose of the respirator after decontamination in accordance with all applicable regulations.

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## **Storage and Inspection**

Store canister unopened in original foil pouch. Do not remove the canister cap and plug prior to use as this may decrease service life of the canister. Store in a clean, cool area where canister will not be physically damaged. In the US, OSHA requires that emergency use respirators be inspected at least monthly and before and after use. Ensure that the caps and plugs have not been removed, canister has not been physically damaged and that the expiration date has not been exceeded.

Shelf life of an unopened canister is 5 years.

## **Assembly**

Do not open until ready to use. Only one 3M™ Canister FR-15-CBRN is required. See 3M™ Full Facepiece FR-M40 *User Instructions* for further information.

1. Open the canister packaging. Remove cap and plug from canister.
2. Screw the canister into the canister inlet port on the facepiece.
3. Hand-tighten the canister completely so that an airtight seal is achieved. Do not over-tighten the canister as this can cause distortion or displacement of the 3M™ Inhalation Valve Kit FR-M40-102.



3M Company  
St. Paul, Minnesota, USA  
1-800-243-4630



**FR-15-CBRN CBRN AIR-PURIFYING GAS MASK CANISTER**

THIS CANISTER IS APPROVED ONLY IN THE FOLLOWING CONFIGURATIONS:  
RESPIRATOR COMPONENTS

TC	PROTECTION <sup>1</sup>	RESPIRATOR COMPONENTS										CAUTIONS AND LIMITATIONS <sup>2-11</sup>
		CANISTER	CBRN			ALTERNATE BUTYL RUBBER SECOND SKIN	ALTERNATE EYEPIECE OUTSERT	ACCESSORIES				
			FACEPIECE, SMALL	FACEPIECE, MEDIUM	FACEPIECE, LARGE							
FR-15-CBRN	FR-M40-10	FR-M40-20	FR-M40-30	FR-M40-5	FR-M40-6	FR-M40-1	FR-M40-2	FR-M40-3	FR-M40-4			
14G-0271	CBRN Cap 1	X	X	X	X	X	X	X	X	X	X	AJLMSRVTWXYZ,HH,QQ,UU

**1. PROTECTION**

CBRN Cap 1 - Capacity meets minimum 15 minutes test time

CBRN - Chemical, Biological, Radiological and Nuclear

**2. CAUTIONS AND LIMITATIONS**

- A- Not for use in atmospheres containing less than 19.5 percent oxygen.
- J- Failure to properly use and maintain this product could result in injury or death.
- L- Follow the manufacturer's User's Instructions for changing cartridges, canister and/or filters.
- M- All approved respirators shall be selected, fitted, used, and maintained in accordance with MSHA, OSHA, and other applicable regulations.
- O- Refer to User's Instructions, and/or maintenance manuals for information on use and maintenance of these respirators.
- S- Special or critical User's Instructions and/or specific use limitations apply. Refer to User's Instructions before donning.

**3. CBRN CAUTIONS AND LIMITATIONS**

- R- Some CBRN agents may not present immediate effects from exposure, but can result in delayed impairment, illness, or death.
- T- Direct contact with CBRN agents requires proper handling of the respirator after each use and between multiple entries during the same use. Decontamination and disposal procedures must be followed. If contaminated with liquid chemical warfare agents, dispose of the respirator after decontamination.
- V- Not for use in atmospheres immediately dangerous to life and health or where hazards have not been fully characterized.
- W- Use replacement parts in the configuration as specified by the applicable regulations and guidance.
- X- Consult manufacturer's User's Instructions for information on the use, storage, and maintenance of these respirators at various temperatures.
- Y- This respirator provides respiratory protection against inhalation of radiological and nuclear dust particles. Procedures for monitoring radiation exposure and full radiation protection must be followed.
- Z- Fitting use, an unexpected hazard is encountered such as a secondary CBRN device, pockets of entrapped hazard or any unforeseen hazard, immediately leave the area for clean air.
- HH- When used at defined occupational exposure limits, the rated service time cannot be exceeded. Follow established canister change out schedules or observe End of Service Life Indicators to ensure that canisters are replaced before breakthrough occurs.
- QQ- Use in conjunction with personal protective ensembles that provide appropriate levels of protection against dermal hazard. Failure to do so may result in personal injury even when the respirator is properly fitted, used, and maintained.
- UU- The respirator should not be used beyond eight (8) hours after initial exposure to chemical warfare agents to avoid possibility of agent permeation. If liquid exposure is encountered, the respirator should not be used for more than two (2) hours.

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