Full Facepiece FR-7800B with Canister FR-15-CBRN and CP3N

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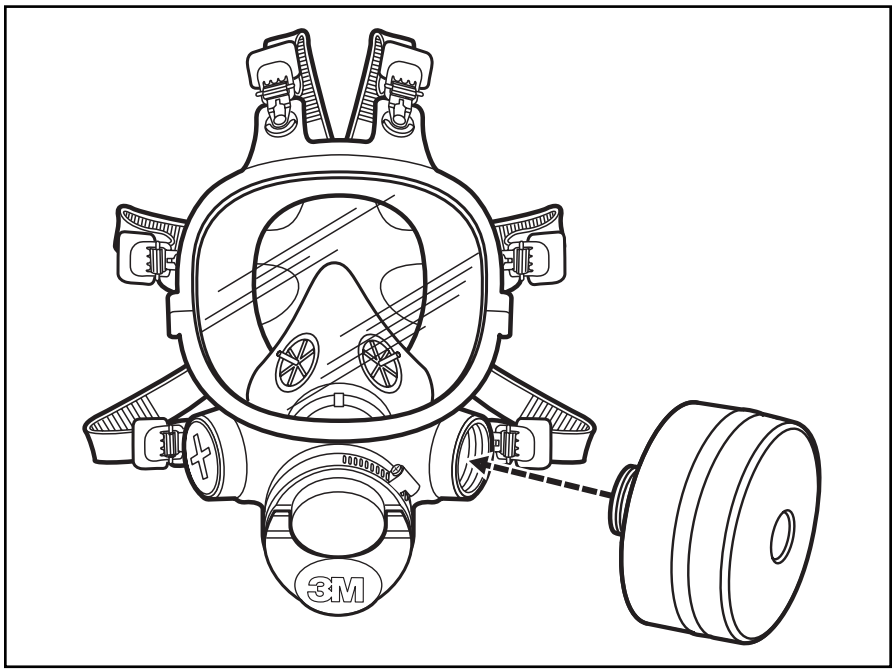
Emergency response is a demanding and dangerous activity. Those who perform it deserve the very best systems available. That's why 3M has taken the lead in developing a respirator that brings together a proven facepiece design with a canister that has superior capabilities. This product was designed specifically for First Responders and features a low-profile design to improve comfort. This NIOSH-approved combination puts 3M at the forefront of innovative products for personal safety.



3M™ Full Facepiece FR-7800B with Canister FR-15-CBRN and CP3N

Features/Benefits

- Facepiece is NIOSH-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 (non-CBRN).
- Lens meets ANSI Z87+ standard, providing high-impact protection. This facepiece can be used as primary eye protection.
- Lens has optical correction promoting no left-to-right visual distortion.
- Butyl rubber seal for added wearer comfort.
- Newly designed exhalation valve cover to help protect the valve against chemical agents.
- Cartridge can be mounted on either side of the facepiece to enable weapon sighting.
- Available in small, medium or large.
- Helps provide security, safety and comfort for the user.
- 3M... A leader in personal protective equipment for over 25 years.

FR-15-CBRN Canister Specifications

Can filter a wide range of chemical warfare agents such as:

- Nerve agents: tabun (GA), sarin (GB), soman (GD), VX.
- Mustard/Blister agents: H, HD, L.
- Tear agents: CN, CS, CR, OC.
- Blood agents: hydrogen cyanide (AC), cyanogen chloride (CK), arsine (SA).
- Choking agents: chlorine, phosgene, chloropicrin (PS), and diphenylchloroarsine (DA).

Can also filter common industrial chemicals such as:

- Organic vapors
- Chlorine dioxide, chlorine, hydrogen fluoride, hydrogen sulfide and sulfur dioxide
- Ammonia, methylamine
- Formaldehyde
- Nitrogen dioxide
- Phosphine
- Particles

Use for:

- Law enforcement agencies
- Security personnel
- Medical personnel
- Fire department response teams
- Hazmat teams
- Emergency medical technicians (EMTs)
- Domestic preparedness personnel
- Military personnel

Test Results for Canister FR-15-CBRN

Challenge Agent	Challenge Concentration (ppm)	Testing Relative Humidity (%)	Maximum Allowed Breakthrough (ppm)	Minimum Test Time (min)	TLV®[1] / IDLH[2] (ppm)	Maximum Use Concentration[3] (ppm)
Ammonia (NH_3)[4]	1000	50	50	> 25	25 / 500	500
Ammonia (NH_3)[5]	2500	25 / 80	12.5	> 15	25 / 500	500
Chlorine Dioxide (ClO_2)[4]	500	50	0.1	> 30	0.1 / 10	10
Carbon Tetrachloride (Organic Vapors)[4]	1000	50	5	> 25	5 / 300	250
Chlorine (Cl_2)[4]	500	50	5	> 17.5	0.5 / 30	25
α-Chloroacetophenone (CN)[4, 6]	16	50	0.05	> 480	0.05 / 16	2.5
o-Chlorobenzylidenemalononitrile (CS)[4, 6]	3	50	0.05	> 480	0.05C[7] / 0.25	0.25
Chloropicrin (PS)[8]	744	80	0.74	> 27	0.1 / 4.0	4.0
Cyanogen Chloride (CK)[5]	300	25 / 80	2	> 15	0.3C[7] / ND (46.9)[9]	15.0
Cyanogen Chloride (CK)[10]	1591	80	3.2	> 30	0.3C[7] / ND (46.9)[9]	15.0
Cyclohexane (Organic Vapors)[5]	2600	25 / 80	10	> 15	100 / 10000	5000
DMMP[10, 11]	591	Dry	0.008	> 59	NA	NA
Formaldehyde (CH_2O)[4]	100	50	1.0	> 50	0.3C[7] / 30	7.5[12]
Formaldehyde (CH_2O)[5]	500	25 / 80	1	> 15	0.3C[7] / 30	7.5[12]
Hydrogen Chloride (HCl)[4]	500	50	5	> 25	2C[7] / 100	100
Hydrogen Cyanide (AC)[13]	3618	80	4.5[14]	> 28	4.7C[7] / 50.0	50.0
Hydrogen Cyanide (AC)[5]	940	25 / 80	4.7[15]	> 15	4.7C[7] / 50.0	50.0
Hydrogen Fluoride (HF)[4]	70	50	3.0	> 30	3C[7] / 30	30
Hydrogen Sulfide, Escape (H_2S)[4]	1000	50	10	> 30	10 / 300	300
Hydrogen Sulfide, Escape (H_2S)[5]	1000	25 / 80	5	> 15	10 / 300	300
Methylamine (CH_3NH_2)[4]	1000	50	10	> 12.5	5 / 100	100
Nitrogen Dioxide (NO_2)[5]	200	25 / 80	1 ppm NO_2 or 25 ppm NO	> 15	3 / 50	50
Particulates (P100)[4]	200 mg total loading w/ 0.3µm MMAD DOP particles	NA	<0.03%	2400[16]	10 mg/m³ I[17] / ND 3 mg/m³ R[18] / ND	500 mg/m³ 150 mg/m³
Phosgene (CG)[13]	4943	50	2.0	> 25	0.1 / 2.0	2.0
Phosgene (CG)[5]	250	25 / 80	1.25	> 15	0.1 / 2.0	2.0
Phosphine (PH)[4]	1500	50	0.3	> 12	0.3 / 200	15
Phosphine (PH)[5]	300	25 / 80	0.3	> 15	0.3 / 200	15
Sulfur Dioxide (SO_2)[4]	500	50	5	> 15	2 / 100	100
Sulfur Dioxide (SO_2)[5]	1500	25 / 80	5	> 15	2 / 100	100

NA = Not applicable ND = Not Determined ppm = parts per million mg/m³ = milligrams per cubic meter of air

1. TLV = Threshold Limit Value from the American Conference of Governmental Industrial Hygienists. ACGIH Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices, 2003.

2. IDLH = Immediately Dangerous to Life or Health limit. NIOSH Pocket Guide to Chemical Hazards, DHHS (NIOSH) Publication No. 90-177, 1990. Although newer IDLH values have been published, OSHA stated in a May 21, 1996 Memorandum that OSHA will use the older IDLH valves while NIOSH conducts further study.

3. Assuming a tight fitting full facepiece respirator that has been quantitatively fit tested and has an assigned protection factor of 50. These values are 50 times the TLV or the IDLH limit, whichever is lower.

4. Testing criteria from NIOSH testing methods tables, 42 Code of Federal Regulations, Part 84. Flow rate is 64 liters/minute.

5. Testing criteria from NIOSH Statement of Standard for Chemical, Biological, Radiological and Nuclear (CBRN) Full Facepiece Air Purifying Respirator (APR), April 4, 2003. Flow rate is 64 liters/minute. The canister must also demonstrate a minimum test life of at least 5 minutes when tested at a flow rate of 100 liters/minute.

6. CS and CN have very low vapor pressure and therefore will exist mainly as particles.

7. C = Ceiling Limit refers to the concentration that should not be exceeded during any part of the working exposure without respiratory protection.

8. American British Canadian Australian Armies Standardization Program. Standards for General Service Respirators/Masks for the Timeframe 1985–2005, QSTAG 695 Second Draft.

9. There is no actual IDLH value for CK. The NIOSH Pocket Guide to Chemical Hazards lists the value for "Cyanides as (CN)" as 50 mg/m³, so multiply 50 by the MW of CK (61.47) and divide by the MW of CN (26.02).

10. MIL-PRF-51560A(EA) for C2A1 Canister.

11. DMMP is a common surrogate or simulant test agent for the nerve agent sarin (GB). TLV and IDLH limit values have not been established for DMMP. NIOSH does not have an approval schedule for DMMP.

12. The OSHA formaldehyde standard, 29 CFR 1910.1048, allows a full facepiece respirator with cartridges to be used up to 7.5 ppm.

13. MIL-DTL-32101 for ASZM-TEDA Carbon; 22 Jan 99, applied to full canister.

14. Calculated as $(CN)_2$.

15. Sum of HCN and C_2N_2.

16. If used in oil aerosol environment, dispose of respirator after 40 hours (2400 minutes) or 30 days, whichever is first.

17. I = Inhalable particles, insoluble, low toxicity, not otherwise specified. See exposure limits for specific substances.

18. R = Respirable particles, insoluble, low toxicity, not otherwise specified. See exposure limits for specific substances.

3M Air-Purifying Cartridges and Canisters for Air Purifying Respirators for Responder Applications

Air purifying respirators (APR) can be used when the contaminant and concentrations are known 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 immediately dangerous to life or health (IDLH) value, otherwise the IDLH becomes the MUC.

Respirator	3M System	APF
Negative Pressure, Full Facepiece APR	FR-7800B Full Facepiece Respirator	50[1]

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

⚠ WARNING

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 package instructions, supervisor or call 3M OH&ESD Technical Service in U.S.A., 1-800-243-4630. In Canada, call 1-800-267-4414.

Important

Not intended for fire-fighting situations.

Before using these respirators, you must determine the following:

1. The type of contaminant(s) for which the respirator is being selected.
2. The concentration level of contaminant(s).
3. Whether the respirator can be properly fitted on the wearer's face. Do not use with beards, other facial hair, or other conditions that prevent a good seal between the face and the faceseal of the respirator.
4. Before use of these respirators, a written respiratory protection program must be implemented, meeting all the requirements of OSHA 29 CFR 1910.134, including training, medical evaluation and fit testing.

Ordering Information

Description	Part No.
Full Facepiece, S	FR-7800B-S
Full Facepiece, M	FR-7800B-M
Full Facepiece, L	FR-7800B-L
Canister	FR-15-CBRN
Canister CP3N	450-02-11R06

Replacement Parts and Accessories

Description	Part No.
Eyeglass Frame and Mount, with Case	7894
Spectacle Kit	7925
Exhalation Valve Cover	FR-7918

3M Occupational Health and Environmental Safety Division
3M Center, Building 235-2W-70
St. Paul, MN 55144-1000

For more information, please contact:

3M Occupational Health and Environmental Safety Division (OH&ESD)

In the U.S., contact:

Sales Assistance
1-800-328-1667
Technical Assistance
1-800-243-4630
Fax On Demand
1-800-646-1655
Internet
www.3M.com/occsafety
For other 3M products
1-800-3M HELPS

In Canada, contact:

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London, Ontario N6A 4T1
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1-800-267-4414
Fax On Demand
1-800-646-1655
Internet
www.3M.com/CA/occsafety

Technical Assistance In Mexico
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5270-2255, 5270-2119 (Mexico City only)
Technical Assistance In Brazil
0800-132333
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