

SafetyTech™

International, Inc.
A Subsidiary of TVI Corporation

The First Choice of First Responders™

STI M96 CARTRIDGE

Technical Data and Manufacturer Certifications

Part Number: S-70020-001
NSN: 4240-01-574-9568
Shelf Life: 5 Years (polybag)
Diameter: 4.57 inches (116mm)
Height: 3.50 inches (90mm) overall
Approx. Weight: 12.5 ounces (355 grams)
Connection: EN 148-1 (40mm) NATO thread
Body Material: Noryl® GFN1
Pressure Drop: 38 mm H₂O (nominal) measured at NIOSH airflow rate of 85 lpm
Accessory: S-70018-001, Snap Cap (provides splash protection to the cartridge inlet)



S-70020-001



Snap Cap S-70018-001

Protections:

NIOSH-Approved Protection meeting/exceeding 42 CFR Part 84 requirements:

Particulates (APR)	P100
Particulates (PAPR)	HE
Ammonia	(AM)
Chlorine Dioxide	(CD)
Chlorine	(CL)
Formaldehyde	(FM)
Hydrogen Chloride	(HC)
Hydrogen Fluoride	(HF)
Hydrogen Sulfide	(HS)
Methylamine	(MA)
Organic Vapors	(OV)
Phosphine	(PH)
Sulfur Dioxide	(SD)
o-Chlorobenzylidene malononitrile	(CS Tear Gas)
α-Chloroacetophenone	(CN Tear Gas)

Military Chemical Warfare Agent (CWA) Protection:

Chloropicrin	(PS)
Cyanogen Chloride	(CK)
Dimethyl Methylphosphonate	(DMMP)
Hydrogen Cyanide	(AC)
Phosgene	(CG)
Sarin	(GB)

NIOSH Approvals: Negative Pressure - TC-84A-5036

P100/AM/CD/CL/FM/HC/HF/HS/MA/OV/PH/SD/CS/CN

Approved Configuration with the STI M96 Cartridge:

Promask 2000 Facepiece – 2 Sizes (Regular & Small)
Full Facepiece Drinking Valve Kit

Positive Pressure - TC-23C-2457

HE/AM/CD/CL/FM/HC/HF/HS/MA/OV/PH/SD/CS/CN

Approved Configuration with the STI M96 Cartridge:

Promask 2000 Full Facepiece – 2 Sizes (Regular & Small)
C420 Blower, Single Speed Toggle
Rechargeable NiMH Battery or Non-Rechargeable LiSO₂ Battery
Breathing Tube Assembly w/75° or 90° Swivel
Web or Decon. Belt Assembly
Full Facepiece Drinking Valve Kit

Positive Pressure - TC-23C-2458

HE/AM/CD/CL/FM/HC/HF/HS/MA/OV/SD

Approved Configuration with the STI M96 Cartridge:

Universal Loose-fitting Visor w/Drawstring and Universal Loose-fitting Hood w/Cape
Butyl Hood w/Integral Breathing Tube
FlexAir Blower w/Onboard Battery
Breathing Tube Assembly for Loose-fitting headpieces
Web or Decon. Belt Assembly

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SAFETYTECH M96 CARTRIDGE INDEPENDENT TEST DATA

SAFETYTECH M96 CARTRIDGE EXCEEDS GAS SERVICE LIFE REQUIREMENTS SPECIFIED IN 42 CFR PART 84

Gas/Vapor Challenge	Formula	Test Concentration (ppm)	Breakthrough Concentration (ppm)	Exceeds NIOSH 42 CFR Part 84 Minimum Service Life Rqmts		
				APR Service Life Rqmts (in minutes)	PAPR Service Life Rqmts As received (in minutes)	PAPR Service Life Rqmts Equilibrated (in minutes)
Ammonia (AM)	NH ₃	1000	50.0	25	25	12.5
Carbon Tetrachloride (OV)	CCl ₄	1000	5.0	25	25	12.5
Chlorine Dioxide (CD)	ClO ₂	500	0.1	30	30	30
Chlorine (CL)	Cl ₂	500	5.0	17.5	17.5	8.7
Formaldehyde (FM)	HCHO	100	1.0	50	50	50
Hydrogen Chloride (HC)	HCl	500	5.0	25	25	12.5
Hydrogen Fluoride (HF)	HF	70	3.0	30	30	30
Hydrogen Sulfide (HS)	H ₂ S	1000	10.0	30	30	30
Methylamine (MA)	CH ₃ NH ₂	1000	10.0	12.5	25	12.5
Phosphine (PH)	PH ₃	1500	0.3	12	12	12
Sulfur Dioxide (SD)	SO ₂	500	5.0	15	15	7.5
o-Chlorobenzylidene malononitrile (CS)	ClC ₆ H ₄ CH=C(CN) ₂	3	0.05	480	480	480
α-Chloroacetophenone (CN)	C ₆ H ₅ COC H ₂ Cl	16	0.05	480	480	480

SAFETYTECH M96 CARTRIDGE EXCEEDS MILITARY CHEMICAL WARFARE AGENT REQUIREMENTS¹

Gas Challenge	Test Concentration (mg/m ³)	Test Flow Rate (lpm)	Testing Relative Humidity (%)	Breakthrough Concentration (mg/m ³)	Minimum Required Service Life Time (in minutes)
Chloropicrin (PS) ²	5000	30	80	5	27
Cyanogen Chloride (CK) ³	4000	32	80	8	30
Dimethyl Methylphosphonate (DMMP) ^{3,5}	3000	50	≤15	0.04	59
Hydrogen Cyanide (AC) ⁴	4000	32	80	5	28
Phosgene (CG) ⁴	20,000	32	50	8	25
Sarin (GB) ³	4000	32	≤15	0.04	83

Notes:

1. There are no NIOSH approval protocols for testing chemical warfare agents in accordance with the requirements referenced in note 2 thru 4 below.
2. Cartridge gas service life testing in accordance with QSTAG 295, Second Draft.
3. Cartridge gas service life testing in accordance with MIL-PRF-51560C.
4. Carbon gas service life testing in accordance with MIL-DTL-32101A.
5. Dimethyl Methylphosphonate is a surrogate test agent for Sarin.

This cartridge is export-controlled by the Department of Commerce, Bureau of Industry and Security. The Export Administration Regulations must be followed to determine if product can be exported to the country of end use.