

SCape CBRN³⁰ and CO/CBRN³⁰ Systems: Chemical Performance



NIOSH Testing: System Level Agent (SMARTMAN)

Test Agent	Challenge Concentration	Service Time
Mustard (HD) Vapor	50 mg/m ³	>30
Mustard (HD) Liquid	0.43-0.86 ml	>30
Sarin (GB) Vapor	210 mg/m ³	>30

NIOSH Testing: Chemical Test Agents (Filter Gas Life)

Test Agent	Challenge Concentration (ppm) (64 lpm at both 25% & 80% RH)	Allowable Breakthrough (ppm)	Service Time (min)
Ammonia (NH ₃)	1250	25	>30
Cyanogen Chloride (CK)	150	2	>30
Cyclohexane (C ₆ H ₁₂)	1300	10	>30
Formaldehyde (CH ₂ O)	250	10	>30
Hydrogen Cyanide (HCN)	470	10	>30
Hydrogen Sulfide (H ₂ S)	500/1500*	30	>30
Nitrogen Dioxide (NO ₂)	100	1	>30
Phosgene (COCl ₂)	125	1.25	>30
Phosphine (PH ₃)	150	0.5	>30
Sulfur Dioxide (SO ₂)	750	5	>30

*1500 ppm supplemental testing conducted on SCape® CO/CBRN at AT labs



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Supplemental Chemical Testing

Test Agent	Challenge Concentration (ppm)	Allowable Breakthrough (ppm)	Service Time (min)
Acetic Acid	1000	5	>30
Acrolein*	100	1	>30
Acrylonitrile	1000	10	>30
Benzene	1000	1	>30
Boron Trifluoride	100	5	>30
Chlorine	1000	5	>30
Chlorine Dioxide	1000	2	>30
Fluorine	100	5	>30
Hexane	2000	10	>30
Hydrogen Chloride	500	5	>30
Hydrogen Fluoride	70	3	>30
Nitric Acid	100	2	>30
Toluene	1000	10	>30

*Testing only conducted for SCape CO/CBRN³⁰

Testing conducted by AJE Testing and Research, Boalsburg, PA and AT Labs, Livermore, CA

SCape® CO/CBRN30 Carbon Monoxide (CO) Penetration Performance

CO Challenge Concentration	Maximum allowable Peak Excursion (detected CO levels in parts per million) at 30 minute identified service life duration	Resulting Maximum Peak Excursion (detected CO levels in ppm)
3600 ppm	500 ppm	<200ppm
CO Challenge Concentration	Maximum allowable Concentration Time (Ct) (ppm-minutes) for 30 minute identified service life duration**	Resulting Concentration Time (Ct) (ppm-minutes) at 30 minutes
3600 ppm	12075	<2000

