

HAZMAX™ CBRN BOOTS



workMaster™
by RESPIREX

Military

Civil Defence

Emergency Services

Hazardous Waste

Industrial Chemicals

Specifically developed for CBRN response, the Hazmax™ CBRN S5 safety boot provides the same comfort and chemical resistance as our popular Hazmax™ chemical safety boots, but with enhanced protection against chemical warfare agents.

Features

- Manufactured from our proprietary **Hazmax™ CBRN compound**, providing significantly better chemical resistance than PVC or PU materials
- **Chemically resistant** boot certified to **EN 13832-3:2018** (footwear protecting against chemicals)
- Conforms to **EN 943-1** (Chemical protective clothing) and certified to this standard as part of an appropriate Respirax gas-tight suit
- **Resistant to Chemical Warfare agents** and decontamination solutions (see over for test data)
- Quick & easy to decontaminate
- **Antistatic** - Electrical resistance meets the requirements of EN ISO 20345:2022 A (0.1MΩ to 1,000MΩ)
- Integral 200 Joule epoxy coated steel **toecap** and stainless steel penetration resistant **mid-sole** as standard
- Also available with a **composite toecap and midsole** (sizes 8-13 UK / 42 - 47 EU only)
- **Heat resistant sole** EN 20345:2022 **HRO**, 60 seconds at 300 °C
- **Cold insulation** to EN ISO 20345:2022 **CI**
- **Fuel and oil resistant** upper and sole
- **Durable, cut-resistant** vulcanised rubber sole, significantly extends working life, even in harsh terrain
- Cleated outsole for **maximum grip** in wet and oily conditions (**SR**)
- **Energy absorbing** tunnel system in heel to EN 20345:2022 **E**
- Ergonomic **cushioned insole** (removable & machine washable) for greater wearer comfort
- **Seamless** construction
- **Kick-off lug**
- Adjustable height
- Knitted nylon lining
- CE marked on the shaft with date and year of manufacture
- REACH Compliant

Care

- Machine washable at up to 40°C
- Shelf life of over 10 years

Certification

- **EN 13832-3: 2018** A,K,O,P,Q,R,T
Chemical Protective Footwear
- **EN ISO 20345:2022** S5 SR HRO CI FO
Safety Footwear
- **PPE Regulation (EU) 2016/425**
Personal Protective Equipment

EN 13832-3

Chemical
Protective
Footwear



Available in *Combat Black (Pictured)*
or *Respirex Olive Green*

Sizes

UK	3	4	5	6	7	8	9	10	11	12	13	14	15
EU	35	36	37	39	41	42	43	44	45	46	47	49	50
US	4	5	6	7	8	9	10	11	12	13	14	15	16

Specifications, configurations and colours are subject to change without notice.

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WARFARE AGENT TESTING

WARFARE AGENT	CODE	CAS NUMBER	TEST METHOD	BREAKTHROUGH TIME
Cyanogen Chloride	CK	506-77-4	ISO 6529:2013	> 6 hours
HD Mustard	HD	505-60-2	TOP 8-2-501	> 24 hours*
Hydrogen Cyanide	AC	74-90-8	ISO 6529:2013	> 8 hours
Lewisite	L	40334-70-1	Finabel 0.7C	> 24 hours
Novachok A 234			LVAP	> 24 hours*
Phosgene	CG	75-44-5	ISO 6529:2013	> 8 hours
Sarin	GB	107-44-8	Finabel 0.7C	> 6 hours
Soman	GD	96-64-0	TOP 8-2-501	> 24 hours*
Tabun	GA	77-81-6	Finabel 0.7C	> 24 hours
TGD	TGD		TOP 8-2-501	> 24 hours*
VX	VX	50782-69-9	LVAP	> 24 hours*

*Amount permeating over 24 hours was less than 0.1 µg/cm²

CHEMICAL PERMEATION

CHEMICAL	CAS NO.	LETTER	METHOD	BREAKTHROUGH
Acetic acid (Glacial)	64-19-7	N	EN 16523	> 12 Hours
Acetone	67-64-1	B	EN374-3	> 2 Hours
Acetone Cyanohydrin	75-86-5		EN374-3	> 8 Hours
Acetonitrile	75-05-08	C	EN374-3	> 6 Hours
Acrylic Acid	79-10-7		EN374-3	> 8 Hours
Acrylonitrile	107-13-1		EN374-3	> 2 Hours
Ammonia 33%	1336-21-6	O	EN 16523	> 32 Hours
Ammonia Gas	7664-41-7		EN374-3	> 8 Hours
Ammonium Hydroxide Solution 5% free NH ₃	1336-21-6		EN 16523	> 32 Hours
Ammonium Pentadecafluoro-octanoate (30% in water)	3825-26-1		EN374-3	> 8 Hours
Aniline	62-53-3		EN374-3	> 8 Hours
Anti-knock (Tetraethyl lead 60%, Dibromoethane 30%, Dichloroethane 10% TEL-CB)	78-00-2 / 106-03-4 / 107-06-2		EN374-3	> 8 Hours
Aqueous Phenol 85%	108-95-2		EN374-3	> 8 Hours
Arsenic Acid	7778-39-4		EN374-3	> 8 Hours
Benzene	71-43-2		EN374-3	> 4 Hours
Benzyl Chloride	100-44-7		EN374-3	> 8 Hours
Bromine	7726-95-6		EN374-3	> 7 Hours
Buta-1,3diene Gas	106-99-0		EN374-3	> 3 Hours
Butyl Acetate	123-86-4		EN374-3	> 6 Hours
Cable oil			EN374-3	> 8 Hours
Carbazole	86-74-8		EN374-3	> 8 Hours
Carbon Disulphide	75-15-0	E	EN374-3	> 1 Hour
Chlorine Gas	7782-50-5		EN374-3	> 3 Hours
Chloroacetic Acid 85%	79-11-8		EN 16523	> 32 Hours
Chromic Acid	1333-82-0		EN374-3	> 8 Hours
Cyclohexylamine	108-91-8		EN374-3	> 8 Hours
Dichloromethane	75-09-02	D	EN374-3	> 1 Hour
Diethylamine	109-89-7	G	EN374-3	> 2 Hours
Diethylene Glycol dimethylether	111-46-6		EN374-3	> 8 Hours
Dimethyl Formamide	68-12-2		EN374-3	> 5 Hours
Epichlorohydrin	106-89-8		EN374-3	> 7 Hours
Ethanol (Ethyl Alcohol)	64-17-5		EN374-3	> 8 Hours
Ethyl Acetate	141-78-6	I	EN374-3	> 4 Hours
Ethylene Glycol	107-21-1		EN374-3	> 8 Hours
Ethylene Dichloride	107-06-2		EN374-3	> 8 Hours
Ethylene Oxide	75-21-8		EN374-3	> 2 Hours
Ethylenediamine tetra-acetic acid tetrasodium salt (EDTA) 5%	64-02-8		EN374-3	> 8 Hours

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CHEMICAL	CAS NO.	LETTER	METHOD	BREAKTHROUGH
Formaldehyde 37%	79-11-8	T	EN374-3	> 8 Hours
Formic Acid 65%	64-18-6		EN374-3	> 8 Hours
Heptane	142-82-5	J	EN374-3	> 8 Hours
Hexane	110-54-3		EN374-3	> 7 Hours
Hydrazine	302-01-2		EN374-3	> 8 Hours
Hydrazine 5%	7803-57-8		EN374-3	> 8 Hours
Hydrochloric Acid 37%	7647-01-0		EN 16523	> 32 Hours
Hydrofluoric Acid 48%	7664-39-3	S	EN374-3	> 66 Hours
Hydrofluoric Acid 73%	7664-39-3		EN374-3	> 8 Hours
Hydrogen Chloride Gas	7647-01-0		EN374-3	> 8 Hours
Hydrogen Fluoride gas anhydrous	7664-39-3		EN374-3	> 1 Hour
Hydrogen Peroxide (10 volume (3%) solution)	7722-84-1		EN374-3	> 8 Hours
Hydrogen Peroxide 50%	7722-84-1	P	EN374-3	> 8 Hours
Iso-butane	75-28-5		EN374-3	> 8 Hours
Iso-butane followed by Hydrofluoric acid 71-75%	75-28-5 + 7664-39-3		EN374-3	> 8 Hours
Iso-propanol (IPA)	67-63-0		EN 16523	> 32 Hours
m-Cresol	108-39-4		EN374-3	> 8 Hours
Methanol	67-56-1	A	EN374-3	> 8 Hours
Methyl Ethyl Ketone (M.E.K) 2-Butanone	78-93-3		EN374-3	> 2 Hours
Methyl Iodide 99%	74-88-4		EN374-3	> 1.5 Hours
Methyl Methacrylate	80-62-6		EN 369	> 3 Hours
methyl-1,2-pyrrolidone	872-50-4		EN369	> 8 Hours
Methylene Chloride Gas	74-87-3		EN374-3	> 1 Hour
Monochloroacetic acid	79-11-8		EN374-3	> 8 Hours
Naphalene	91-20-3		EN374-3	> 8 Hours
N,N-Dimethylaniline	121-69-7		EN374-3	> 8 Hours
N,N-dimethyl acetamide	127-19-5		EN374-3	> 8 Hours
Nitric Acid 50%	7697-37-2	M	EN 16523	> 32 Hours
Nitric Acid 70% conc	7697-37-2		EN 16523	> 32 Hours
Nitric Acid Etchant 80/20	7697-37-2		EN374-3	> 8 Hours
Nitro Benzene	98-95-3		EN374-3	> 3 Hours
Oleum 40% SO ₃	8014-95-7		EN374-3	> 8 Hours
Oxalic Acid saturated solution	6153-56-6		EN374-3	> 8 Hours
Phenol 50% in Methanol	108-95-2/ 67-56-1		EN374-3	> 8 Hours
Phosphoric acid 25%	7664-38-2		EN 16523	> 32 Hours
Phosphoric acid 75%	7664-38-2		EN 16523	> 32 Hours
Propylene 1,2 oxide	75-56-9		EN374-3	> 1 Hours
Red Fuming Nitric acid	7697-37-2		EN374-3	> 4 Hours
Sodium Cyanide 30wt%	143-33-9		EN374-3	> 8 Hours
Sodium Hydroxide 40%	1310-73-2	K	EN374-3	> 8 Hours
Sodium Hypochlorite 16%	7681-52-9	R	EN374-3	> 8 Hours
Styrene	100-42-5		EN374-3	> 8 Hours
Sulphuric Acid 50%	7664-93-9	L	EN 16523	> 8 Hours
Sulphuric Acid 96%	7664-93-9		EN374-3	> 8 Hours
Tetrachloroethylene	127-18-4		EN374-3	> 3 Hours
Tetraethyl Lead (Octel Anti Knock)	78-00-2		EN374-3	> 8 Hours
Tetrahydrofuran	109-99-9	H	EN374-3	> 3 Hours
Toluene	108-88-3	F	EN374-3	> 4 Hours
Toluene 2,4 Diisocyanate	584-84-9		EN374-3	> 8 Hours
Trichloroethane	71-55-6		EN374-3	> 6 Hours
Trichloroethylene 1,1,2	79-01-6		EN374-3	> 3 Hours
Triethanol-amine	102-71-6		EN374-3	> 8 Hours
Triethylene Glycol	112-27-6		EN374-3	> 8 Hours
Trigonox K-80 Cumyl hydroperoxide 80% / 20% Cumene	80-15-9/ 98-82-8		EN 369	> 8 Hours
Xylene	1330-20-7		EN374-3	> 4 Hours

Chemicals in **bold** are the 15 standard test chemicals defined in EN943-2:2002