



USER GUIDE AND TECHNICAL MANUAL

This user information is to be removed only by the end user



Classified by UL to NFPA 1991 (2016 Ed.)

MH61556





TABLE OF CONTENTS

<ul style="list-style-type: none">• Product Information• Sizing	03
<hr/>	
<ul style="list-style-type: none">• Test Data	04
<hr/>	
<ul style="list-style-type: none">• Shelf Life• Safety Considerations• Limitations of Use• Interface Issues• Storage Practices	06
<hr/>	
<ul style="list-style-type: none">• Donning & Doffing• Inspection Details• Care & Maintenance• Cleaning• Decontamination/Disposal	07
<hr/>	
<ul style="list-style-type: none">• Warranty Information	08

PRODUCT INFORMATION

ONESUIT® Hazglove-91 is a high performance CBRN protective glove with unsurpassed comfort and dexterity that provides maximum protection against chemical and biological hazards. It is produced using Saint-Gobain's CORETECH® barrier technology, providing ultimate broad range chemical protection and is certified to NFPA 1991 (2016 Ed.) with optional liquefied gas and flash fire escape protection. The glove features an internal barrier liner constructed from CORETECH® Uniguard 2700 material and an outer glove constructed from Para-Aramid and Aramid blend fabrics which form a permanently joined single piece glove and is designed to be attached to a protective suit utilizing a ring and clamp system.

NOTE: It is recommended that this product not be marked in anyway by the user. If custom marking is desired please specify during the ordering process for marking by the factory.



Protect against:

- Chemical warfare agents
- Toxic industrial chemicals
- Biological agents
- Solvents, oils and lubricants
- Cuts and punctures
- Viral penetration
- Chemical flash fires

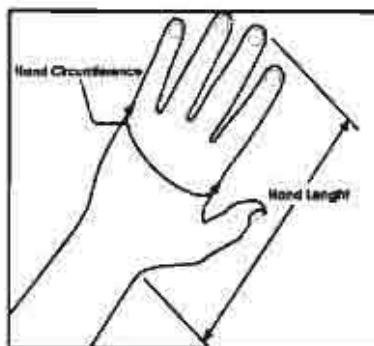
Product benefits:

- Maximum protection
- Incredible dexterity
- Industrial, military, tactical and hazmat operations
- Easy to use, comfortable
- Universal suit compatibility

SIZING

ONESUIT® Hazglove-91 has been sized to fit a wide range of users. Please refer to the diagram and table to find the most appropriate size.

NOTE: If in-between sizes, round up to the next larger size.



Hand Length	Hand Circumference	ONESUIT® Hazglove-91 Recommended Size	Product Codes: Universal Cuff	Product Codes: OEM Cuff
6 3/4 - 7 1/4	6 3/4 - 8 3/8	Small (SM)	43502M	43502M-ATS
7 1/4 - 7 5/8	7 1/4 - 8 3/4	Medium (MD)	43503M	43503M-ATS
7 5/8 - 8	7 5/8 - 9 1/8	Large (LG)	43504M	43504M-ATS
8 - 8 3/8	8 - 9 1/2	X-Large (XL)	43505M	43505M-ATS
8 3/8 - 8 3/4	8 3/8 - 10	2X-Large (2X)	43506M	43506M-ATS

NOTE:

"Hand Length" is measured from tip of middle finger to wrist bone

"Hand Circumference" is measured around the hand at the knuckles

TEST DATA

ONESUIT[®] Hazglove 91 has been assessed per the requirements of NFPA 1991 (2016 Edition). Below is the applicable certification test data.

NOTE: Most performance properties of ONESUIT[®] Hazglove 91 cannot be tested by the user in the field.

®

CHEMICAL PERMEATION DATA:

ONESUIT[®] Hazglove-91					
Test Period Interval	Cumulative Permeation ($\mu\text{g}/\text{cm}^2$) over Test Period Interval				
	0-15 min	15-30 min	30-45 min	45-60 min	1-hour total
Chemical/ Requirement	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0	≤ 6.0
Acetone	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
Acetonitrile	< 0.08	0.27	0.72	1.89	2.7
Acrolein	< 0.06	< 0.06	0.1	0.3	0.4
Acrylonitrile	< 0.21	< 0.21	< 0.21	0.41	0.41
Anhydrous ammonia (gas)	0.25	0.49	0.77	0.83	2.33
1,3-Butadiene (gas)	< 0.04	< 0.04	0.41	0.72	0.99
Carbon disulfide	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chlorine (gas)	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dichloromethane	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
Diethyl amine	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dimethyl formamide	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dimethyl sulfate	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Ethyl acetate	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Ethylene oxide (gas)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexane	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hydrogen chloride (gas)	< 0.20	0.28	0.44	1.23	1.86
Methanol	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
Methyl chloride (gas)	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Nitrobenzene	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Sodium hydroxide, 50% w/w	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Sulfuric acid, 96.1% w/w	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Tetrachloroethylene	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Tetrahydrofuran	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Toulene	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Chemical Warfare Agents					
Blister Agent Requirements	≤ 1.33	≤ 1.33	≤ 1.33	≤ 1.33	≤ 4.0
Distilled Mustard	n/a	n/a	n/a	n/a	< 0.20
Nerve Agent Requirements	≤ 0.40	≤ 0.40	≤ 0.40	≤ 0.40	≤ 1.25
Soman	n/a	n/a	n/a	n/a	≤ 0.14
Optional Liquefied Gases*					
Ammonia (liquefied)	-	-	-	-	-
Chlorine (liquefied)	-	-	-	-	-
Ethylene oxide (liquefied)	-	-	-	-	-

*Liquefied chemical gases are only evaluated over a 15-minute exposure period.

PHYSICAL/ THERMAL/ OPERATIONAL DATA:

ONESUIT® Hazglove-91	Performance Requirement	Test Method	Requirement	RESULT
Base Requirements				
Glove Composite Material (Palm)	Flame resistance	ASTM F1358 (Section 8.7)	Afterflame time ≤ 2 seconds No melting	See Flash fire data below
	Cut resistance	ASTM F1790 (Section 8.15)	Blade travel distance ≥20 mm at 150 grams	45
	Puncture resistance	ASTM F1342 (Section 8.16)	Puncture force ≥ 22 N	83
	Cold temperature performance	ASTM D747 (Section 8.12)	Bend moment ≤ 0.057 Nm	0.003 – (MD) 0.003 – (XMD)
Glove Composite Material (Back)	Flame resistance	ASTM F1358 (Section 8.7)	Afterflame time ≤ 2 seconds No melting	See Flash fire data below
	Cut resistance	ASTM F1790 (Section 8.15)	Blade travel distance ≥20 mm at 150 grams	45
	Puncture resistance	ASTM F1342 (Section 8.16)	Puncture force ≥ 22 N	34
	Cold temperature performance	ASTM D747 (Section 8.12)	Bend moment ≤ 0.057 Nm	0.002 – (MD) 0.001 – (XMD)
ONESUIT® Hazglove-91	Dexterity	ASTM F2010 (Section 8.17)	Percent increase in bare handed control >600 percent	326
Optional Flash Fire Requirements				
Glove Composite Material (Palm)	Heat transfer performance	ASTM F2700 (Section 8.18)	HTP Rating ≥ 12 cal/cm ²	24
	Flame resistance	ASTM F1358 (Section 8.7)	Afterflame time ≤ 2 seconds Burn distance ≤ 100 mm No melting and dripping	0.0 – (MD) 0.0 – (XMD) 7 – (MD) 6 – (XMD) No melt and drip
Glove Composite Material (Back)	Heat transfer performance	ASTM F2700 (Section 8.18)	-HTP Rating ≥ 12 cal/cm ²	20
	Flame resistance	ASTM F1358 (Section 8.7)	Afterflame time ≤ 2 seconds No melting and dripping Burn distance ≤ 100 mm	0.0 – (MD) 0.2 – (XMD) 22 – (MD) 16 – (XMD) No melt and drip

SHELF LIFE

ONESUIT Hazglove 91 is expected to last at least 15 years from the date of manufacture when following the specified storage, maintenance, and inspection practices. The shelf life for ONESUIT Hazglove 91 is based on the following product attributes:

1. The use of inherently stable materials (Fluoropolymers, Aramids, TPEs, etc.);
2. Elimination of adhesive systems that degrade over time; and
3. Proprietary fabrication/ welding techniques that minimizes the propensity to degrade/weaken with use.

Note: While the stated shelf life for ONESUIT Hazglove 91 is at least 15 years from the date of manufacture, Saint Gobain maintains that there is no need to dispose of the product based strictly on time.

SAFETY CONSIDERATIONS

®

All protective equipment needs to be well maintained to function properly; ONESUIT Hazglove 91 is no exception. Users should read this guide thoroughly, and take the following precautions into consideration:

1. Avoid direct flame contact. The glove is not intended for use in/ or near an open flame for extended periods of time.
2. Avoid continuous exposure to any known hazardous substance. Do not purposely expose the glove to a constant liquid hazard. ®
3. If the following symptoms are experienced, the user MUST leave the "hot zone" immediately: fever, nausea, dizziness, eye irritation, breathing difficulty, excessive fatigue, or any unusual odor or taste.

LIMITATIONS OF USE

This product is recommended for use as described in the standards to which it is certified. If it is suspected that this product has come into contact with a hazardous substance, dispose of it using appropriate departmental procedures.

INTERFACE ISSUES

Should issues arise regarding the interface between the protective suit and ONESUIT Hazglove 91, please refer to the applicable protective suit user guide or contact Saint Gobain Technical Services at 1.800.451.6101.

STORAGE PRACTICES

ONESUIT Hazglove 91 should be stored in a safe and dry location, with temperatures maintained between 25 110°F (4 43°C). In addition, ONESUIT Hazglove 91 should be stored in a manner that protects against exposure to UV light.

®

®

®

DONNING & DOFFING

Unlike traditional multi glove systems that require specific and elaborate donning/ doffing procedures, the unique design of ONESUIT Hazglove 91 allows the user to don & doff the gloves with great ease by simply inserting and removing the hands from the gloves. To assist while donning, gently hold the inner liner taught while inserting the hand into the glove; and to assist while doffing, hold the tips of the fingers and gently remove the hand.

INSPECTION DETAILS

Proper inspection of ONESUIT Hazglove 91 is critical in ensuring the product provides the level of protection for which it is designed for. Inspections of ONESUIT Hazglove 91 should be performed prior to each use or a minimum of at least once per year. The following conditions should be carefully examined for when visually inspecting ONESUIT Hazglove 91:

- Cuts or tears
- Holes or punctures
- Broken stitching
- Signs of contamination
- Evidence of burns

If any of these conditions are observed, or there is any concern with the integrity of the product, discontinue use immediately and remove product from service.

CARE & MAINTENANCE

As long as the recommended storage practices are followed, there is no annual maintenance required for ONESUIT Hazglove 91. ONESUIT Hazglove 91 is not repairable; therefore if it is ripped, torn, punctured, or compromised in any way (including the existence of any of the conditions listed in the INSPECTION section), discontinue use immediately and remove product from service.

CLEANING

ONESUIT Hazglove 91 may be laundered with a light detergent using the delicate setting on a standard washing machine. Dry ONESUIT Hazglove 91 either in open air or a standard tumble dryer using low heat and the delicate drying cycle.

WARNING: Do not use bleach as a cleaning agent, and do not use if not thoroughly cleaned and dried.

DECONTAMINATION/DISPOSAL

While ONESUIT Hazglove 91 can be decontaminated using standard departmental procedures, due to the nature of the product, it is not recommended to re use gloves that have been in contact with a hazardous substance. If it is suspected that ONESUIT Hazglove 91 has come into contact with a hazardous substance, it should be disposed of using the appropriate departmental procedures.



COMPLIANCE STATEMENTS

ONESUIT Hazglove 91 is certified by Underwriters Laboratories (UL) to the following NFPA standards:

- NFPA 1991 Standard on Vapor Protective Ensembles for Hazardous Materials Emergencies and CBRN Terrorism Incidents (2016 Edition)

NOTE: Proper use shall be in accordance with NFPA 1500 Standard on Fire Department Occupational Safety and Health Program.

- For users in the United States, 29 CFR 1910.132, "Personal Protective Equipment"
- For users in other countries, consult national or other applicable personal protective equipment regulations

WARRANTY INFORMATION

Disclaimers and Warning:

Information contained in this User Manual and Technical Guide (the "Technical Manual") is based on technical data and other information that Saint Gobain Performance Plastics (SGPPL) believes to be reliable. Such information may be revised, amended or supplemented as additional data and/or information becomes available to SGPPL. Information contained in this Technical Manual is based on certain tests conducted on the materials comprising the ONESUIT Hazglove 91. Information contained in this Technical Manual is intended to be used by the purchaser of the glove to determine if the glove is suitable for such purchaser's specific use or application. Any such determination is made at the purchaser's sole risk and SGPPL assumes no liability in connection with the use of such information by any such purchaser.

NO GLOVE CAN PROVIDE COMPLETE PROTECTION UNDER ALL CONDITIONS AND FOR ALL USES AND APPLICATIONS. IT IS THE SOLE RESPONSIBILITY OF THE PURCHASER TO DETERMINE THAT THE GLOVE IS APPROPRIATE AND SUITABLE FOR THE PURCHASER'S SPECIFIC USE OR APPLICATION.

It is the responsibility of the purchaser and/or the end user of the glove to, among other things:

Determine that the glove is suitable for such purchaser or end user's specific use or application;

- (1) Determine that the glove is suitable for such purchaser or end user's specific use or application;
- (2) Understand the information contained in this Technical Manual relating to the proper use, handling, maintenance, storage and disposal of the glove;
- (3) Read, review and understand the information contained in this Technical Manual and any other information supplied to the purchaser with respect to the glove;
- (4) Confirm that the glove is appropriate for the purchaser and/ or end user's specific use or application and complies with all government and industry standards and requirements applicable to the purchaser's use or application; and
- (5) Diligently inspect the glove before and after use for wear and damage. See additional information relating to inspection of the glove for wear and damage contained elsewhere in this Technical Manual.

General Disclaimer:

THIS WARRANTY REPLACES ALL OTHER ORAL OR WRITTEN WARRANTIES, LIABILITIES, OR OBLIGATIONS OF SGPPL. EXCEPT AS EXPRESSLY SET FORTH IN THE PRODUCT WARRANTY SET FORTH BELOW, SGPPL MAKES NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND AND SGPPL EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES, EXPRESS OR IMPLIED, IN FACT OR IN LAW, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. PERTINENT STATE LAW WILL CONTROL FOR WHAT PERIOD OF TIME FOLLOWING THE SALE A CUSTOMER MAY SEEK A REMEDY UNDER THE IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Warning

If the glove becomes torn or frayed, is abraded, ripped or punctured, or the integrity of the glove is otherwise compromised in any way (collectively "Damaged"), the purchaser and/or end user should immediately discontinue use of the glove. Failure to discontinue use may result in injury or exposure to potentially harmful agents.

Warranty

SGPPL warrants to the purchaser and/or end user of the glove that the glove will be free of defects in material and workmanship for a period of ninety (90) days from the date of purchase (the "Product Warranty") provided that the glove has (i) been stored, used and maintained properly in accordance with all written instructions and recommendations contained in this Technical Manual provided by SGPPL with the Glove and (ii) not been damaged, altered, modified or repaired.

EXCEPT AS EXPRESSLY SET FORTH IN THE PRODUCT WARRANTY, SGPPL MAKES NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND AND SGPPL EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES, EXPRESS OR IMPLIED, IN FACT OR IN LAW, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

The purchaser and/or end user's exclusive remedy for a glove which breaches the Product Warranty, regardless of the legal theory on which any such claim may be based (including without limitation contract, warranty, or tort), will be the Replacement of such non conforming or defective glove or, at SGPPL's election, the refund of the purchase price paid for such glove.

In the event that the purchaser and/or end user believes that the glove breaches the Product Warranty, the purchaser and/or end user must provide SGPPL with such glove and a detailed statement of the non conformance or defect. SGPPL will advise the purchaser as soon after its investigation as possible, whether or not SGPPL concurs that the glove breaches the Product Warranty. If SGPPL, in its sole discretion, concurs that the glove breaches the Product Warranty, SGPPL will, as purchaser's sole and exclusive remedy, effect a replacement or refund with respect to such glove.

Limitation of Liability

To the fullest extent permitted by law, SGPPL shall not be liable to the purchaser, the end user or to any third party for any indirect, special, incidental or consequential damages arising out of the sale, delivery, use or disposal of the glove, including without limitation any such damages resulting from breach of warranty, negligence in design, manufacture, warning or testing, strict liability or otherwise, and including those arising from the sale, delivery, use or disposal of the glove sold to the purchaser by any person or entity.

In no event shall SGPPL's liability for any loss or damage arising out of or resulting from the sale, delivery, use or disposal of the glove exceed the purchase price paid by the purchaser for such glove. Some states do not allow limitations on, or the exclusion of incidental or consequential damages, so the above exclusions may not apply to you.

For more than four decades, Saint-Gobain Performance Plastics and its family of brands, including ONESUIT® high performance hazmat materials and CORETECH® barrier technology, have supplied the world with innovative, high performance polymer products for the most demanding applications.

Saint-Gobain is one of the top 100 industrial corporations, with a tradition of excellence dating back more than 350 years.

The company has a strong and ongoing commitment to sustainable habitat, energy efficiency and environmental solutions that protect and insulate.



SAINT-GOBAIN

Saint-Gobain Performance Plastics
701 Daniel Webster Highway
Merrimack, NH 03054
Tel: 603.424.9000
Technical and Customer Service
800.451.6101
www.onesuitprotection.com

ONESUIT® is a registered trademark of Saint-Gobain Performance Plastics Corporation.
ONESUIT® Hazglove-91 is currently certified to:



Classified by UL to NFPA 1991 (2016 Ed.)

MH61556

© 2017 UGTM SGOSHG910317 43003M