



MATERIAL SAFETY DATA SHEET (MSDS)

Fortivene® FireGuard Fabric

Manufacturer:

Graphene Solid State Group LLC

Main Location:

30 N Gould St STE R
Sheridan, WY 82801

Production Facility:

1349 Lynn Ave
Bethlehem, PA 18015

Phone:

610-883-8243

1. IDENTIFICATION

Product Name:

Fortivene® FireGuard Fabric

Recommended Use:

High-performance textile for protective clothing, including firefighter turnout gear and industrial protective garments.

Restrictions on Use:

For professional application in certified protective equipment only.

2. HAZARDS IDENTIFICATION

Classification (per OSHA 29 CFR 1910.1200):

- Skin Irritation – Category 2 (fibrous dust during cutting or fabrication)
- Eye Irritation – Category 2B (fibrous dust)
- Specific Target Organ Toxicity (Single Exposure) – Category 3 (Respiratory)

Signal Word:

WARNING

Hazard Statements:

- May cause mechanical irritation to skin, eyes, and respiratory tract during handling or cutting.

Precautionary Statements:

- Avoid breathing dust or fibers
 - Wear protective gloves, clothing, and eye protection
 - Wash thoroughly after handling
 - Use only in well-ventilated areas
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3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS Number	Concentration (% by weight)
Graphene Nanomaterial	Proprietary	Proprietary (Trade Secret)
Fire-Resistant Polymer Fibers	Proprietary	Proprietary
Mineral Fillers and Modifiers	Proprietary	Proprietary

Note: Exact formulation is proprietary and protected by trade secret law. Full disclosure will be provided to health professionals or regulators upon request.

4. FIRST AID MEASURES

Eye Contact:

Rinse cautiously with water for several minutes. Remove contact lenses if present. Seek medical advice if irritation persists.

Skin Contact:

Wash with soap and water. Remove contaminated clothing. Seek medical advice if irritation develops.

Inhalation:

Move to fresh air. Seek medical attention if symptoms persist.

Ingestion:

Rinse mouth. No acute toxicity expected. Seek medical advice if discomfort occurs.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Water spray, foam, dry chemical, or carbon dioxide.

Hazardous Combustion Products:

Carbon oxides, nitrogen oxides, trace metal oxides.

Protective Equipment:

Self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Avoid breathing dust or fibers during cutting or handling. Use PPE.

Environmental Precautions:

Prevent fibers from entering waterways.

Cleanup Methods:

Sweep or vacuum material. Avoid creating airborne dust.

7. HANDLING AND STORAGE

Handling:

- Avoid generating dust during cutting or fabrication.
- Use appropriate PPE.
- Wash hands after handling.

Storage:

- Store in a dry, cool, well-ventilated area.

- Keep in original packaging until use.
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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

No established exposure limits for proprietary components. Treat nuisance dusts as Particulates Not Otherwise Classified (PNOC).

Engineering Controls:

Provide local exhaust ventilation if dust is generated.

PPE:

- **Eye Protection:** Safety goggles
 - **Skin Protection:** Protective gloves and clothing
 - **Respiratory Protection:** NIOSH-approved respirator when cutting or generating dust
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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Woven fabric (grey or colored)

Odor: Odorless

pH: Not applicable

Melting Point: >300 °C

Flash Point: Not applicable

Solubility: Insoluble in water

Density: ~1.2–1.5 g/cm³

10. STABILITY AND REACTIVITY

Reactivity:

Stable under normal use.

Chemical Stability:

Stable.

Hazardous Reactions:

None known.

Decomposition Products:

Carbon oxides and trace volatiles when burned.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure:

Inhalation of dust, skin contact, eye contact

Acute Effects:

- Mechanical irritation of eyes, skin, and respiratory tract

Chronic Effects:

None known under normal use conditions.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Not expected to be hazardous in solid form.

Persistence and Degradability:

Non-biodegradable.

Bioaccumulation:

Not expected.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state, and federal regulations.

14. TRANSPORT INFORMATION

UN Number: Not regulated

Transport Hazard Class: Not applicable

Packing Group: Not applicable

15. REGULATORY INFORMATION

OSHA: Hazardous (mechanical irritation)

TSCA: All components listed or exempt

California Proposition 65: No known components at reportable levels

16. OTHER INFORMATION

Revision Date:

07/01/2025

Disclaimer:

The information herein is believed accurate but provided without warranty. Formulation details are proprietary and protected by trade secret law.