

SAFETY DATA SHEET

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015). **Updated -10/01/2024**

1. IDENTIFICATION

1.1. Product Identifier

Product Form: Substance
Product Name: DEFENDPAK™ (all grain sizes)
CAS-No.: 65997-17-3
Synonyms: Expanded Glass Granules

1.2. Intended Use of the Product

Lightweight aggregate / filler, mineral fire, heat and smoke suppressant for Class D (metal) fires and lithium-ion battery fires.

1.3. Name, Address, and Telephone of the Responsible Party

Distributed by:

Veolia ES Technical Solutions, LLC
1275 Mineral Springs Drive
Port Washington, WI 53074

1.4. Emergency Telephone Number

888-669-9725

1.5. Country of Origin:

Product of Canada

2. HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification: Not classified

2.2. Label Elements

GHS-US/CA Labeling: No labeling applicable according to 29 CFR 1910.1200 and the Hazardous Products Regulations (HPR) SOR/2015-17.

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2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Name: DEFENDPAK™ (all grain sizes)

CAS-No.: 65997-17-3

Name	Synonyms	Product Identifier	% *	GHS Ingredient Classification
Glass, oxide, chemicals	Glass, oxide / Glass / Sodium calcium polyphosphate / Glass powder / Calcium sodium polyphosphate / Sodium calcium polyphosphate silicate / Sodium zinc potassium polyphosphate / Glass flake / Calcium aluminum borosilicate / Glass dust / GLASS / Fiberglass	(CAS-No.) 65997-17-3	100	Not classified

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

4. FIRST AID MEASURES

4.1. Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

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Inhalation: For particulates and dust: When symptoms occur: go into open air and ventilate suspected area. Encourage exposed people to cough, spit out, and blow their nose to remove dust. Obtain medical attention if breathing difficulty persists.

Skin Contact: For particulates and dust: Remove contaminated clothing. Drench the affected area with water for at least 5 minutes. Obtain medical attention if irritation develops or persists.

Eye Contact: For particulates and dust: Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Not expected to present a significant hazard under anticipated conditions of normal use.

Inhalation: If dust is generated: Prolonged exposure may cause irritation.

Skin Contact: Direct contact may cause irritation by mechanical abrasion.

Eye Contact: Eye contact with large amounts of dust may cause mechanical irritation.

Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: None expected under normal conditions of use. For particulates and dust: Glass Oxide is known by IARC as possibly carcinogenic to humans (2B) via inhalation of respirable dust/fibers. Continuous Filament Fiber Glass is classified as an IARC group 3, not classifiable as a human carcinogen. Under normal conditions of use, this product is not expected to produce respirable fiberglass/glass oxide fibers, and is therefore not classified as a carcinogen. If product is altered and dust is formed, proper precautions should be taken to ensure material is not respired.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have a product container or label at hand.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy streams of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions. Hydrofluoric acid will react with and dissolve glass, and other silica containing material. May react with fluorosilicic acid and phosphoric acids.

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5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter a fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: This product does not burn. Thermal decomposition generates: Silicon oxides.

Other Information: Do not breathe dust.

5.4. Reference to Other Sections

Refer to Section 9 for flammability properties.

6. Reference to Other Sections

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid prolonged contact with eyes, skin and clothing. Avoid breathing dust.

6.2. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.3. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.4. Environmental Precautions

Prevent entry to sewers and public waters.

6.5. Methods and Materials for Containment and Cleaning Up

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. For particulates and dust: Vacuum clean-up is preferred. If sweeping is

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required use a dust suppressant. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.6. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

7. HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Spilled material may present a slipping hazard. Glass Oxide is known by IARC as possibly carcinogenic to humans (2B) via inhalation of respirable dust/fibers. Continuous Filament Fiber Glass is classified as an IARC group 3, not classifiable as a human carcinogen. Under normal conditions of use, this product is not expected to produce respirable fiberglass/glass oxide fibers, and is therefore not classified as a carcinogen. If product is altered and dust is formed, proper precautions should be taken to ensure material is not respired. As a result of flow, agitation, etc, electrostatic charges can be generated.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Avoid creating or spreading dust. Do not breathe dust.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep containers closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Hydrofluoric acid will react with and dissolve glass, and other silica containing material. Dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas.

7.3. Specific End Use(s)

Lightweight aggregate / filler

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

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Glass, oxide, chemicals (65997-17-3)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ total dust, 5 mg/m ³ , respirable fraction 8 hr
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	3 fibers/cm ³ (fibers ≤3.5 µm in diameter & ≥10µm in length), TWA 5mg/m ³ (total)
Yukon	OEL TWA (mg/m ³)	30 mppcf (dust or fibrous) 10 mg/m ³ (dust or fibrous)

8.2. Exposure Controls

Appropriate Engineering Controls: Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles. Dust formation: dust mask.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information: When using, do not eat, drink or smoke.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State:	Solid
Appearance:	Creamy-White Granules
Odor:	Not available
Odor Threshold:	Not available
pH:	Not available
Evaporation Rate:	Not available
Melting Point:	900 °C (1652 °F)
Freezing Point:	Not available
Boiling Point:	Not available
Flash Point:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Flammability (solid, gas):	Not available
Lower Flammable Limit:	Not available
Upper Flammable Limit:	Not available
Vapor Pressure:	Not available
Relative Vapor Density at 20°C:	Not available
Relative Density:	0.1 - 0.6 @25 °C
Specific Gravity:	Not available
Solubility:	Water: Insoluble
Partition Coefficient: N-Octanol/Water	:Not available
Viscosity:	Not available

10. STABILITY AND REACTIVITY

10.1. Reactivity:

Hazardous reactions will not occur under normal conditions. Hydrofluoric acid will react with and dissolve glass, and other silica containing material. May react with fluorosilicic acid and phosphoric acids.

10.2. Chemical Stability:

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions:

Hazardous polymerization will not occur.

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10.4. Conditions to Avoid:

Direct sunlight, extremely high or low temperatures, and incompatible materials. Avoid creating or spreading dust.

10.5. Incompatible Materials:

Strong acids, strong bases, strong oxidizers. Hydrofluoric acid will react with and dissolve glass, and other silica containing material. Dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas.

10.6. Hazardous Decomposition Products:

Thermal decomposition may produce: Silicon oxides.

11. TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Ingredient(s)

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: If dust is generated: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Direct contact may cause irritation by mechanical abrasion.

Symptoms/Injuries After Eye Contact: Eye contact with large amounts of dust may cause mechanical irritation.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: None expected under normal conditions of use. For particulates and dust: Glass Oxide is known by IARC as possibly carcinogenic to humans (2B) via inhalation of respirable dust/fibers. Continuous Filament Fiber Glass is classified as an IARC group 3, not classifiable as a human carcinogen. Under normal conditions of use, this product is not expected to produce respirable fiberglass/glass oxide fibers, and is therefore not classified as a carcinogen. If product is altered and dust is formed, proper precautions should be taken to ensure material is not respired.

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11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Glass, oxide, chemicals (65997-17-3)

IARC Group: 3

National Toxicology Program (NTP) Status: Reasonably anticipated to be Human Carcinogen.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Not classified.

12.2. Persistence and Degradability

DEFENDPAK™ (all grain sizes) (65997-17-3)

Persistence and Degradability: Not established.

12.3. Bioaccumulative Potential

DEFENDPAK™ (all grain sizes) (65997-17-3)

Bioaccumulative Potential: Not established.

12.4. Mobility in Soil

DEFENDPAK™ (all grain sizes) (65997-17-3)

Ecology - Soil: Not established.

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Ecology - Waste Materials: Avoid release to the environment.

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14. TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT:

Not regulated for transport

14.2. In Accordance with IMDG:

Not regulated for transport

14.3. In Accordance with IATA:

Not regulated for transport

14.4. In Accordance with TDG:

Not regulated for transport

15. REGULATORY INFORMATION

15.1. US Federal Regulations

Glass, oxide, chemicals (65997-17-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State Regulations

Neither this product nor its chemical components appear on any US state lists, or its chemical components are not required to be disclosed.

15.3. Canadian Regulations

Glass, oxide, chemicals (65997-17-3)
Listed on the Canadian DSL (Domestic Substances List)

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16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

16.1. Date of Preparation or Latest Revision:

10/1/2024

Other Information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.