

Safety Data Sheet (SDS)

1. Product and the Company Identification

Product name : "Firestop Putty-BP" (light-weight, intumescent putty)
 Common name : Heat resistant sealing material
 Company name : FURUKAWA TECHNO MATERIAL CO.,LTD.
 Address : 5-1-8, HIGASHI-YAWATA, HIRATSUKA-CITY, KANAGAWA-PREF, 254-0016, JAPAN
 Contact Office : Quality Assurance Department, Fire Prevention Division
 Telephone number : +81-463-24-9341
 Fax number : +81-463-24-9346
 Emergency contact : +81-463-24-9341
 Use applications : Mainly used as a fire prevention material for penetrations.

2. Hazards Identification

GHS Classification
 Physicochemical hazards : Not Applicable
 Health hazards : Not Applicable
 Environmental hazards : Not Applicable
 GHS Label elements
 Symbols/Pictograms : Not Applicable
 Signal word : Not Applicable
 Hazard Statement : Not Applicable
 Precautionary statement : Not Applicable

3. Composition/Information on Ingredients

Single chemical substance or mixture: Mixture

Composition	Chemical formula	Content (%)	Reference number in gazetted list in Japan.	CAS №	UN class	UN number
Mixture of liquid resin and inorganic fillers such as calcium carbonate	Not identified	≥99	Nondisclosure	Nondisclosure	Not Restricted	Not Restricted
Silica (as impurity)	SiO ₂	<1	Industrial Safety and Health Act, Notifiable substance No. 165-2 (Not applicable)	7631-86-9	Not Restricted	Not Restricted

4. First Aid Measures

Inhalation : Move person to fresh air. Call a physician if symptoms develop or persist.
 Skin contact : Wash off with soap and water. Get medical attention if irritation develops and persists.
 Eye contact : Immediately wash the eyes, and receive medical treatment.
 Swallowing : Do not induce vomiting. Wash the mouth thoroughly with water. Immediately receive the medical treatment.

5. Fire Fighting Measures

Extinguishing media	: Not specified
Unsuitable extinguishing media	: Not specified
Specific hazards with regard to extinguishing	: Not specified
Specific fire extinguishing method	: Not specified
Protection for fire extinguishers	: Not specified

Extinguishers should be done from the windward side, with suitable protective respirator and clothing, if necessary.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

Wear proper protective equipment.

Environmental procedures : Not applicable

Methods for collect : Collect spillage and place in empty container.

7. Handling and Storage

Handling : Do not get on eye or skin. After handling wash hands thoroughly.

Storage : Store in a cool and dark place, away from direct sunlight and humidity.

8. Exposure Control and Personal Protection

Control parameters

Administrative exposure level : Not established

Occupational exposure limit value (OEL) : Not established

Exposure control

Countermeasure equipment : Not established

Protective equipment:

Wear proper protective equipment (mask, gloves, goggles and clothing) on necessity.

9. Physical and Chemical Properties

Physical state	: Semisolid substance (clayey)
Appearance (Color)	: Gray
Odor	: Almost odorless
Melting point	: Not applicable
Boiling point or initial boiling point	: Not applicable
Flammability	: nonflammable
Lower and upper explosion limit/flammability limit	: No data
Flash point	: No data
Auto-ignition temperature	: No data
Decomposition temperature	: No data
pH	: Not applicable
Kinematic viscosity	: No data
Solubility	: Not soluble in water
Partition coefficient (n-octanol/water)	: Not applicable
Vapor pressure	: Not applicable

Relative density	: 1.25 (water = 1)
Relative gass density	: Not applicable
Particle characteristics	: Not applicable

10. Stability and Reactivity

Reactivity	: Not reactive under normal conditions
Chemical stability	: Stable under normal conditions
Possibility of hazardous reactions	: No useful information
Conditions to avoid	: No useful information
Incompatible materials	: No useful information
Hazardous decomposition product	: No useful information

11. Toxicological Information

Acute toxicity	: No useful information
Skin corrosion / Irritation	: No useful information
Serious eye damage/eye irritation	: No useful information
Respiratory sensitization / Skin sensitization	: No useful information
Germ cell mutagenicity	: No useful information
Carcinogenicity	: No useful information
Reproductive toxicity	: No useful information
Specific target organ toxicity (single exposure)	: No useful information
Specific target organ toxicity (repeated exposure)	: No useful information
Aspiration hazard	: No useful information

12. Ecological Information

Hazard to the aquatic environmental (acute)	: No useful information
Hazard to the aquatic environmental (chronic)	: No useful information
Hazard to the ozone layer	: No useful information
Persistence and degradability	: No useful information
Bioaccumulation potential	: No useful information
Mobility in soil	: Expected to have low mobility in soil

13. Disposal Considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations.
 Disposal should be entrusted to authorized waste disposal companies.

14. Transport Information

UN No	: Not Restricted
UN CLASS	: Not Restricted
International Air Transportation (ICAO-TI/IATA-DGR)	: Not Restricted
International Marine Transportation (IMDG Code)	: Not Restricted

15. Regulatory Information

Chemical Substances Control Law (JAPAN)	: Not Applicable
Law concerning Pollutant Release and Transfer Register / PRTR Law (JAPAN)	: Not Applicable
Industrial Safety and Health Law (JAPAN)	: Not Applicable
Fire Service Act (JAPAN)	: Not Applicable

Poisonous and Deleterious Substances Control Law (JAPAN)

: Not Applicable

16. Other information

Contact office : Quality Assurance Department, Fire Prevention Division

Telephone number : +81-463-24-9341

Warning

This Safety Data Sheet has been prepared based on the latest materials and data available and its information is not guaranteed. It may be subject to revision depending on future findings. The cautions described herein are targeted at usual treatment, and in case the users of this product implement special treatments, they are advised to take safety measures suitable for their purpose and usage.

Safety Data Sheet (SDS)

1. Product and the Company Identification

Product name : ALGC
Common name : Aluminum Glass Cloth
Company name : FURUKAWA TECHNO MATERIAL CO.,LTD.
Address : 5-1-8, HIGASHI-YAWATA, HIRATSUKA-CITY, KANAGAWA-PREF, 254-0016, JAPAN
Contact Office : Quality Assurance Department, Fire Prevention Division
Telephone number : +81-463-24-9341
Fax number : +81-463-24-9346
Emergency contact : +81-463-24-9341
Use applications : Product is to be used mainly for composed material for firestop products and flame retardant products.

2. Hazards Identification

GHS Classification

Physicochemical hazards : Not applicable
Health hazards : Not applicable
Environmental hazards : Not applicable

GHS Label elements

Symbols/Pictograms : Not applicable
Signal Word : Not applicable
Hazard Statement : Not applicable
Precautionary Statement : Not applicable

The product is not hazardous.

3. Composition/Information on Ingredients

Single substance or mixture: Mixture

General name		CAS no.
Glass fiber cloth	85g/m ²	65997-17-3
Aluminum alloy foil	20 μ m	7429-90-5

Synthetic resin emulsion is used as the adhesive for lamination.

4. First Aid Measures

Inhalation : Move person to fresh air. Seek medical attention if irritation persists.

- Skin Contact : Wash with mild soap and running water. Use a washcloth to help remove fibers.
To avoid more irritation, do not rub or scratch affected areas. Rubbing or scratching may force fibers into skin. Seek medical attention if irritation persists.
- Eye Contact : Flush eyes with running water for at least 15 minutes. Seek medical attention if irritation persists.
- Swallowing : Ingestion of this material is unlikely. If it does occur, watch the person for several days to make sure that intestinal blockage does not occur.
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5. Fire-Fighting Measures

- Extinguishing Media : Water, foam, CO2 or dry chemical.
- Unsuitable extinguishing media : Not specified
- Hazardous Combustion Products : Primary combustion products are carbon monoxide, carbon dioxide and water.
Other undetermined compounds could be released in small quantities.
- Fire Fighting Instructions : Use self contained breathing apparatus (SCBA) in a sustained fire.
- Unusual Fire and Explosion Hazards : None known
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6. Accidental Release Measures

- Land Spill : Scoop up material and put into suitable container for disposal as a nonhazardous waste.
- Water Spill : This material will sink and disperse along the bottom of waterways and ponds. It can not easily be removed after it is waterborne; however, the material is non-hazardous in water.
- Air Release : This material will settle out of the air. If concentrated on land it can then be scooped up for disposal as a non-hazardous waste.
- Methods for collect : Collect spillage and place in empty container.
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7. Handling and Storage

- Handling, Storage : No special storage or handling procedures are required for this material.
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8. Exposure Control and Personal Protection (Ingredient : Fiber Glass Continuous Filament)

Allowable consistency:

- OSHA (8hr TWA): 15mg/m³ (total dust), 5mg/m³ (respirable dust), 1 fiber/cc (proposed)
- ACGIH (8hr TWA): 310mg/m³ (inhalable dust), 33mg/m³ (respirable dust)

Equipment for measures: Ventilation

General dilution ventilation and/or local exhaust ventilation should be provided as necessary to maintain exposures below regulatory limits.

Personal Protection:

- Respiratory Protection: A properly fitted NIOSH/MSHA approved disposable dust respirator such as the 3M model 8210 (or 8710) or model 9900 (in high humidity environments) or equivalent should be used when: high dust levels are encountered; the level of glass fibers in the air exceeds the OSHA permissible limits; or if irritation occurs.

Use respiratory protection in accordance with your company's respiratory protection program, local regulations and OSHA regulations under 29 CFR 1910.134.

- Skin Protection: Loose fitting long sleeved shirt that covers to the base of the neck, long pants and gloves. Skin irritation is known to occur chiefly at pressure points such as around neck, wrist, waist and between fingers.
- Eye Protection: Safety glasses or goggles.
- Work and Hygienic Practices: Handle using good industrial hygiene and safety practices. Avoid unnecessary contact with dusts and fibers by using good local exhaust ventilation. Remove material from the skin and eyes after contact. Remove material from clothing using vacuum equipment (never use compressed air and always wash work clothes separately from other clothing. Wipe out the washer or sink to prevent loose glass fibers from getting on other clothing).
Keep the work area clean of dusts and fibers made during fabrication by using vacuum equipment to clean up dusts and fibers (avoid sweeping or using compressed air as these techniques re-suspend dusts and fibers into the air.) Have access to safety showers and eye wash stations.

9. Physical / Chemical Characteristics

Vapor Pressure (mmHg @ 20°C): Not Applicable	pH: Not Applicable
Vapor Density (Air=1): Not Applicable	
Specific Gravity (Water=1): 2.60	Boiling Point: Not Applicable
Solubility in Water: Insoluble	Viscosity: Not Applicable
Appearance: Solid	Physical State: Solid
Odor Type: None	Freezing Point: Not Applicable
Evaporation Rate (n-Butyl Acetate=1): Not Applicable	Flash Point: None
Flammability Limits (%): None.	Auto Ignition Temperature: Not Applicable.

10. Stability and Reactivity

General	: Stable
Incompatible Materials and Conditions to Avoid	: None

Hazardous Decomposition Products : Sizings or binders may decompose in a fire.
See Section 5 of SDS for combustion products statement.

Hazardous Polymerization : Will not occur.

11. Toxicological Information (Ingredient : Fiber Glass Continuous Filament)

CARCINOGENICITY: The table below indicates whether or not each agency has listed each ingredients as a carcinogen

ACGIH	IARC	NTP	OSHA
A4	3	No	No

The International Agency for Research on Cancer (IARC) in June, 1987, categorized fiber glass continuous filament as not classifiable with respect to human carcinogenicity (Group 3). The evidence from human as well as animal studies was evaluated by IARC as insufficient to classify fiber glass continuous filament as a possible, probable, or confirmed cancer causing material.

12. Ecological Information

This material is not expected to cause harm to animals, plants or fish.

Hazard to the aquatic environmental : No useful information
 Hazard to the ozone layer : No useful information
 Persistence and degradability : Expected to persist
 Bioaccumulation potential : No useful information
 Mobility in soil : Expected to have low mobility in soil.

13. Disposal Considerations

RCRA Hazard Class: Non-hazardous.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Disposal should be entrusted to authorized waste disposal companies.

14. Transport Information

No special precautions for transportation.

The product does not correspond to the UN number and the UN classification.

15. Regulatory Information

Law concerning Pollutant Release and Transfer Register(JAPAN) / PRTR : Not applicable

* “Boron and its compounds” are listed as class 1 designated chemical substances in Appendix 1 of the Enforcement Order, and the glass long fiber is “glass product” containing 1% or more of “boron” as a constitutive substance. However, in case of the range of normal use, this product is not subjected to PRTR Law notification. Note, if fusing, evaporating or melting, etc. is involved in the handling process, notification of emission amount and transfer amount of the chemical substance is required.

16. Other Information

Contact office : Quality Assurance Department, Fire Prevention Division
 Telephone number : +81-463-24-9341

Warning

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Appendix 1

E-glass composition Component	E-glass composition/ Weight(%)
SiO ₂	52 – 56
Al ₂ O ₃	12 – 16
CaO	15 – 25
MgO	0 – 6
B ₂ O ₃	0 – 13
R ₂ O (Na ₂ O+K ₂ O)	0 – 2
(Na ₂ O)	-
(K ₂ O)	-

Note) Although the above components are shown as oxide composition formulas as a technical convention in the field of glass, these components are not mixed in E-glass as components of preparation but exist in the form of chemical bonds within lattices which are formed by irregularly bonding the oxides that make up the glass. Therefore, these do not indicate the state of each component in the glass.

Safety Data Sheet (SDS)

1. Product and the Company Identification

Product name : PE-Film
 Common name : Linear Low Density Polyethylene
 Company name : FURUKAWA TECHNO MATERIAL CO.,LTD.
 Address : 5-1-8, HIGASHI-YAWATA, HIRATSUKA-CITY, KANAGAWA-PREF, 254-0016, JAPAN
 Contact Office : Quality Assurance Department, Fire Prevention Division
 Telephone number : +81-463-24-9341
 Fax number : +81-463-24-9346
 Emergency contact : +81-463-24-9341
 Use applications : Product is to be used mainly for composed material for firestop products and flame retardant products.

2. Hazards Identification

GHS Classification

Physicochemical hazards : Not applicable
 Health hazards : Not applicable
 Environmental hazards : Not applicable

GHS Label elements

Symbols/Pictograms : Not applicable
 Signal Word : Not applicable
 Hazard Statement : Not applicable
 Precautionary Statement : Not applicable

The product is not hazardous.

3. Composition/Information on Ingredients

Single substance or mixture: Single substance.

Composition	Chemical formula	Content (%)	Reference number in gazetted list in Japan	CAS No	UN class	UN No
Polyethylene	$(-CH_2-CH_2-)_n$	> 99	Chemical Substances Control Law (JAPAN): 6-1 (Not applicable)	9002-88-4	Not restricted	Not restricted

4. First Aid Measures

- Inhalation : Move person to fresh air. Call a physician if symptoms develop or persist.
- Skin contact : Wash off with soap and water. Get medical attention if irritation develops and persists.
- Eye contact : Do not rub the eyes. Immediately wash the eyes, and receive medical treatment.
- Swallowing : Do not induce vomiting. Wash the mouth thoroughly with water. Immediately receive the medical treatment.

5. Fire-Fighting Measures

- Extinguishing Media : Water spray. Chemical powder, Foam. Carbon dioxide (CO₂).
- Unsuitable Extinguishing Media : Not specified
- Hazardous Combustion Products : Decomposition products may include carbon dioxide.
Normally combustion forms water vapor and may produce carbon monoxide and other hydrocarbons.
The products of the burning are dangerous.
- Special Protective Equipment : Use personal protective equipment or self-contained breathing apparatus (SCBA) when fighting fires in enclosed areas or confined room.
- Extinguishers should be done from the windward side, with suitable protective respirator and clothing, if necessary.

6. Accidental Release Measures

- Personal precautions : Eliminate all sources of ignition in vicinity of spilled material.
Wear appropriate personal protective equipment when cleaning up spills.
- Environmental procedures : Avoid dispersal of split materials to natural waters, soil or sewers.
- Methods for collect : Sweep up or vacuum split materials and place in a designated, labeled waste container. Contact licensed waste disposal contractor to dispose.

7. Handling and Storage

- Handling : Use good housekeeping for safe handling of the product. No smoking, drinking or eating in handling and store area. Avoid spilling the product, as this might cause falls.
Potential toxic / irritating fumes may be evolved from heated material. Provide appropriate ventilation for such processing conditions. Take precautionary measures against explosion risks, as all type of polymers may develop dust during transporting or grinding of granules.
- Storage : Protect from heat and sunlight in a dry, cool and well-ventilated area. Take precautionary measures to prevent the formation of static electricity. Do not store together with oxidizing and self-igniting products.

8. Exposure Control and Personal Protection

Exposure limits

No exposure limits value known.

Exposure control

Respiratory protection : Product processing, heat sealing of film or operations involving the use of wires or blades heated above 300°C may produce dust, vapor or fumes. To minimize risk overexposure to dust or vapor or fumes, it is recommended that a local exhaust system is placed above the equipment, and that the area is properly ventilated. If ventilation is inadequate, use certified respirator that will protect against dust / mist.

Protective equipment : Wear proper protective equipment (mask, gloves, goggles)

9. Physical / Chemical Characteristics

Physical state	: Solid
Appearance	: Film
Color	: Off-white
Odor	: Paraffin-like
Odor threshold	: No data available
PH	: Not applicable
Melting point	: 120~130°C
Boiling point	: Not applicable
Flash point	: No data available
Evaporation rate	: Not applicable
Flammability (solid, gas)	: None
Vapor pressure	: Not applicable
Vapor density	: Not applicable
Density (23°C)	: 0.91~0.94
Solubility in water	: Insoluble
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: <u>Not applicable</u>
Oxidizing properties	: None
Auto-Ignition temperature	: 350°C approx.
Decomposed temperature	: No data available
Partition coefficient, n-octane/water	: No data available
Upper/lower explosion limits	: Not applicable

Explosive properties : High dust concentrations have a potential for sparking or explosion

10. Stability and Reactivity

Reactivity : Not reactive under normal conditions
Chemical stability : Stable under normal conditions
Possibility of hazardous reactions : No useful information
Conditions to avoid : Not applicable
Incompatible materials : To avoid strong oxidizing agents such as chlorates, nitrates, peroxides, fluorine, etc.
Hazardous decomposition product : Will not occur, under normal conditions

11. Toxicological Information

Acute toxicity : No data available
Skin corrosion / Irritation : No data available
Serious eye damage/eye irritation : No data available
Respiratory sensitization / Skin sensitization : No data available
Germ cell mutagenicity : No data available
Carcinogenicity : No data available
Reproductive toxicity : No data available
Specific target organ toxicity(single exposure) : No data available
Specific target organ toxicity(repeated exposure) : No data available
Aspiration hazard : No data available
Other effects : No data available

12. Ecological Information

Hazard to the aquatic environmental : No data available
Hazard to the chronic environmental : No data available
Hazard to the ozone layer : Montreal Protocol. Substances that Deplete the Ozone Layer, as amended : not listed to the Montreal Protocol
Persistence and degradability : No data available
Bioaccumulation potential : No data available
Mobility in soil : No data available

13. Disposal Considerations

Avoid contact of spilled material and runoff with soil and surface waterways.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Disposal should be entrusted to authorized waste disposal companies.

14. Transport Information

UN No : Not restricted

UN CLASS : Not restricted

International Air Transportation (ICAO-TI/IATA-DGR) : Not restricted

International Marine Transportation (IMDG Code) : Not restricted

15. Regulatory Information

Packaging and Labeling : No special requirement

Chemical Substances Control Law (JAPAN) : Not applicable

Law concerning Pollutant Release and Transfer Register / PRTR Law (JAPAN) : Not applicable

Industrial Safety and Health Law (JAPAN) : Not applicable

Fire Service Act (JAPAN) : Designated flammable goods

Poisonous and Deleterious Substances Control Law (JAPAN) : Not applicable

Waste Management and Public Cleansing Law (JAPAN) : Applicable

16. Other Information

Contact office : Quality Assurance Department, Fire Prevention Division

Telephone number : +81-463-24-9341

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