SAFETY DATA SHEET

The classification is based on the criteria in the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

1. Identification of the Substance and Manufacturer

Product: Glass-Filled PTFE Compounds

Material Description: PCI 5 FG LF, PCI 10 FG LF, PCI 15 FG LF, PCI 15 GB LF, PCI 20 FG LF, PCI 20 GB LF, PCI 25 FG LF, PCI 30 FG LF, PCI 50 FG LF, PCI 15 FG FF, PCI 15 SG FF, PCI 15 GB FF, PCI 20 FG FF, PCI 22.5 FG FF, PCI 25 FG FF, PCI 30 FG FF, PCI 35 FG FF, PCI 10 FG EG, PCI 15 FG EG, PCI 20 FG EG, PCI 20 GB EG, PCI 25 FG EG, PCI 30 FG EG, PCI 35 FG EG, PCI 15 GL EG, PCI 25 GL EG

Manufacturer or supplier's details

Manufacturer: PTFE Compounds, Inc.
220 Chesapeake Boulevard
Elkton, MD 21921

Telephone number: 1-410-392-9080

TeleFax: 1-410-392-9081

Recommended use of the chemical and restrictions on use

Recommended use: Resin for molding and/or extrusion

Restrictions on use: Medical applications that involve permanent application in the human body or contact with internal bodily fluids or tissues.

2. Hazard Identification

GHS classification: If using a glass fiber-filled compound, the glass fiber in the compound is classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1900.1200, App. A
Skin Irritation (Category 2)
Eye Irritation (Category 2B)
SPECIFIC Target Organ Toxicity – Single Exposure (Category 3)

GHS Label Elements:

Signal word: Warning

Pictograms:

Hazard Statements:

H315 Causes skin irritation.
Causes eye irritation.

H335 May cause respiratory irritation.

Precautionary Statements:

P261 Avoid breathing dust.

P271 Use only outdoors or in a well-ventilated area.

P264 Wash hands and other affected areas thoroughly after handling.

P280 Wear protective gloves, clothing, and eye protection.

P304+P340+P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call POISON CENTER or physician if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P337+P313	If skin or eye irritation occurs get medical attention.
P362	Take off contaminated clothing and wash before reuse.
P403+P223	Store in well ventilated place. Keep container tightly closed.
P501	Dispose of contents in accordance with applicable regulations.

Other hazards: May cause thermal burns. The thermal decomposition products can include carbon monoxide, carbon dioxide, oxides of sulfur, and vapors of fluorinated plastics. The latter may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

3. Composition / Information of Ingredients

Substance / Mixture: Mixture

Substance name: Filled Polytetrafluoroethylene Compound

Chemical Name	CAS	% (weight)
Polytetrafluoroethylene	9002-84-0	50-95
Man-made glass fiber	65997-17-3	0-50
Glass beads, as glass oxide; Borosilicate glass type E	65997-17-3	0-22

Chemical Name or composition: Fibrous glass (composition consisting principally of oxides of silicon, calcium, aluminum, magnesium, and boron fused in an amorphous vitreous state), PTFE

NFPA Unusual Hazards: None

Component Related Regulatory Information: This product may be regulated, have exposure limits or other information identified as the following: glass wool fiber, fibrous glass, and nuisance particulates

Component Information / Information on Non-Hazardous Components: No additional information available.

4. First Aid Measures

General advice: First responders should wear suitable personal protective equipment in case of insufficient ventilation or possible inhalation or eye contact.
In case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice

If inhaled: If inhaled, move to fresh air.
Encourage patient to blow nose to ensure a clear breathing passage
Get medical attention if symptoms persist.

If swallowed: If swallowed, DO NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head down position, if possible) to maintain open airway and prevent aspiration of vomit into the lungs.
Watch person for several days to make sure that partial or complete intestinal obstruction does not occur.

	Rinse mouth thoroughly with water. Never give liquid to a person showing signs of being sleepy or reduced awareness, i.e. becoming unconscious. Get medical attention if symptoms occur.
In case of skin contact:	Wash with mild soap and cold water. Get medical attention if symptoms occur. NEVER use compressed air to remove fibers from skin. If the fibers are seen penetrating the skin, the fibers can be removed by applying and removing adhesive tape so that the fibers adhere to the tape and are pulled out of the skin. If contact molten material, cool skin rapidly with cold water after contact with molten material. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Cover affected area with a clean dressing. Consult a physician.
In case of eye contact:	If in eyes, rinse well with water for 15-20 minutes. Get medical attention if irritation develops and persists. If contact molten material, DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Get immediate medical attention.
Most important symptoms and effects, both acute and delayed:	Polymer fume fever Contact with dust can cause mechanical irritation or drying of the skin. Dust contact with eyes can lead to mechanical irritation.
Protection of first-aiders:	No special precautions are necessary for first aid responders.
Notes to physician	Treat symptomatically and supportively.

5. Fire Fighting Measures

Suitable extinguishing media:	Carbon dioxide (CO_2) Dry chemical Alcohol-resistant foam Water spray or fog
Unsuitable Extinguishing Media:	Do not use solid water stream as it may scatter and spread fire.
Specific hazards during Fire-fighting:	Exposure to combustion products may be hazardous to health.
Hazardous Thermal Decomposition Products:	Hydrogen fluoride Carbon fluoride Potentially toxic fluorinated compounds Aerosolized particulates Carbon oxides Hydrogen Ammonia
Specific extinguishing methods:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective actions for fire-fighters:	As in any fire, wear self-contained breathing apparatus (SCBA) pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Wear neoprene gloves during clean up after fire.
Further information:	Protect from hydrogen fluoride fumes which react with water to form hydrofluoric acid.

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures:	Evacuate area. Keep unprotected persons away. Ensure adequate ventilation. Avoid dust cloud formation and inhalation of dust. Follow safe handling advice and personal protective equipment recommendations. Spilled material can create slippery conditions.
Environmental Precautions:	Discharge into the environment must be avoided. Prevent further leakage or spillage from entering drains, sewers, or watercourses; if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and material for containment and clean up	Sweep up and shovel or vacuum up spillage and collect in suitable containers for disposal. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Use an appropriate industrial vacuum cleaner, equipped with ULPA or HEPA filters. Local or national regulations may apply to releases and disposal of this material as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

7. Handling and Storage

Local / Total Ventilation:	Use only with adequate ventilation and prevent the creation of dusts. If concentrations exceed the occupational exposure limits, use suitable respiratory protection.
Advice on safe handling:	For personal protection see section 8. Do not breathe or ingest dust. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. When opening containers, avoid breathing vapors that may be emanating. Keep container closed when not in use. Wash hands and face before breaks and immediately after handling the product. Avoid contamination of cigarettes or tobacco with dust from this material. In case of insufficient ventilation, wear suitable respiratory equipment. Do not use a torch to clean this material from equipment without local exhaust ventilation and respirator.
Conditions for safe storage:	Keep in closed, properly labeled containers. Store in accordance with the particular national regulations. Store away from heat. Protect from contamination. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Stable under recommended storage conditions.

Materials to avoid:	Do not store with the following product types: Strong oxidizing agents
Further information on storage stability:	Stable under recommended storage conditions.

8. Exposure Controls / Personal Protection

Components with workplace control parameters

Components	CAS	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Polytetrafluoroethylene	9002-84-0	Contains no substances with occupational exposure limit values		
Glass fiber	65997-17-3	8-hour TWA	15 mg/m³ (non-respirable fiber & particulate)	OSHA
		8-hour TWA	5 mg/m³ (respirable particulate)	OSHA
		8-hour TWA	5 mg/m³ (non-respirable fiber & particulate)	ACGIH TLV
		8-hour TWA	None Established	ACGIH TLV
Glass beads as glass oxide	65997-17-3	No Occupational Exposure Limits assigned		
			15 mg/m³ total dust	
			5 mg/m³ respirable (Particulates Not Otherwise Regulated)	

Occupational exposure limits of decomposition products of Polytetrafluoroethylene

Components	CAS	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Hydrofluoric acid	7664-39-3	TWA	3 ppm 2.5 mg/m³	NIOSH REL
		C	6 ppm 5 mg/m³	NIOSH REL
		TWA	3 ppm	OSHA Z-2
		TWA	0.5 ppm (Fluorine)	ACGIH
		C	2 ppm (fluorine)	ACGIH
Carbonyl difluoride	353-50-4	TWA	2 ppm	ACGIH
		STEL	5 ppm	ACGIH
		ST	5 ppm 15 mg/m³	NIOSH REL
		TWA	2 ppm 5 mg/m³	NIOSH REL
Carbon dioxide	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		TWA	5,000 ppm 9,000 mg/m³	OSHA Z-1
		TWA	5,000 ppm 9,000 mg/m³	NIOSH REL
		ST	30,000 ppm 54,000 mg/m³	NIOSH REL

Carbon monoxide	630-08-0	TWA	25 ppm	ACGIH
		TWA	35 ppm 40 mg/m^3	NIOSH REL
		C	200 ppm 229 mg/m^3	NIOSH REL
		TWA	50 ppm 55 mg/m^3	OSHA Z-1

ACGIH : American Conference of Government Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor – Occupational Safety and Health Administration
ACGIH BEI: American Conference of Government Industrial Hygienists Biological Exposure Indices
NIOSH REL: National Institute for Occupational Safety and Health Recommended Exposure Limits
TWA : Time-Weighted-Average
STEL : Short Term Exposure Limit
CEIL : Ceiling
TLV : Threshold Limit Value
ST : Short Term Exposure Limit
C : Ceiling Value

Engineering controls: Processing may form hazardous compounds (see Section 10)
Ensure adequate ventilation, especially in confined areas, is provided to minimize airborne contamination and to keep dust concentrations below the exposure limits.

Personal protective equipment (PPE)

Respiratory Protection: General and local ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirator. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand Protection: Protective gloves. Heat resistant Polymer laminate recommended.

Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of the workday. Breakthrough time is not determined for the product. Change gloves often!

Eye/Face Protection: Safety glasses with side shields or safety goggles.
It is recommended that contact lens wearers additionally wear goggles or a full-face respirator as appropriate for exposure conditions. To avoid eye and face contact, use a full-face shield but never use as primary eye protection.

Skin/ Body protection: Skin irritation is known to occur chiefly at the pressure points such as around the neck, wrists, waist, and between the fingers.
Long sleeves and/or protective suit or coveralls recommended.
Skin should be washed after contact.
If there is a potential for contact with hot/molten material wear heat resistant clothing and footwear.

Hygiene measures: Ensure that eye flushing systems and safety showers are located close to the working place.
When using; do not eat, drink, or smoke.
Wash contaminated clothing before re-use.

9. Physical and Chemical Properties

Appearance:	Powder or pellet
Color:	White
Odor:	Odorless
Odor Threshold:	No data available
pH:	Not data available
Melting point / range:	> 327°C
Boiling point / boiling range:	No data available
Flash point:	Not applicable
Evaporation Rate:	Not applicable
Flammability (solid, gas):	Not classified as a flammability hazard
Upper explosion limit / Upper flammability limit:	No data available
Lower explosion limit / Lower flammability limit:	No data available
Vapor pressure:	Not applicable
Relative vapor density:	Not applicable
Density:	2.15-2.30 g/cm^3
Solubility(ies)	
Water solubility:	Insoluble
Partition coefficient: n-octanol/water	No applicable data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity	
Viscosity, kinematic	Not applicable
Explosive properties:	Not explosive
Oxidizing properties:	This substance or mixture is not classified as oxidizing.
Particle size:	No data available

10. Stability and Reactivity

Reactivity:	Not classified as a reactivity hazard
Chemical stability:	Stable under normal conditions.
Possibility of hazardous reactions:	Can react with strong oxidizing agents. Hazardous decomposition products will be formed at elevated temperatures.
Conditions to avoid:	To avoid thermal decomposition, do not overheat. Abnormally long processing time or high temperatures can produce irritating and toxic fumes.
Incompatible materials:	Oxidizing agents

Hazardous Decomposition Products

Thermal decomposition:	Hydrofluoric acid Carbonyl difluoride Carbon dioxide Carbon monoxide

11. Toxicological Information

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Polytetrafluoroethylene (PTFE): Not classified based on available information

Glass fibers: Dusts may cause mechanical to eyes and skin. Ingestion may cause transient irritation of throat, stomach, and gastrointestinal tract. Inhalation may cause coughing, nose and throat irritation, and sneezing. People with pre-existing respiratory conditions, may experience difficulty breathing, congestion, and chest tightness.

Glass beads: Dusts may cause mechanical irritation. The acute oral toxicity of this product has not been tested. A similar material was nontoxic to rats at 5,000 mg/kg. Inhalation may cause irritation to mucous membranes.

Skin corrosion / irritation

PTFE: Not classified based on available information.
Glass fibers: No information provided.
Glass beads: Dust may cause mechanical irritation.

Serious eye damage / eye irritation

PTFE: Not classified based on available information.
Glass fibers: No information provided.
Glass beads: Dust may cause mechanical irritation.

Respiratory or skin sensitization

Skin sensitization

PTFE: Not classified based on available information.
Glass fibers: No information provided.
Glass beads: Not sensitizing.

Respiratory sensitization

PTFE: Not classified based on available information.
Glass fibers: No information provided.
Glass beads: Not sensitizing.

Germ cell mutagenicity

PTFE: Not classified based on available information.
Glass fibers: No information provided.
Glass beads: No information provided.

Carcinogenicity

PTFE: Not classified based on available information

IARC No ingredient of this product is present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens

NTP No ingredient of this product is present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Glass fibers: The International Agency for Research on Cancer (IARC) in June 1987, categorized fiberglass continuous filament as not classified with respect to human carcinogenicity (Group 3). The evidence from human as well as animal studies was evaluated by IARC as insufficient to

classify fiberglass continuous filament as a possible, probable, or confirmed cancer-causing material. This conclusion was confirmed by IARC in October 2001.

The American Conference of Government Industrial Hygienists (ACGIH) A4 classification, not classified as a human carcinogen, for respirable continuous filament glass fibers is based on inadequate data in terms of carcinogenicity in humans and/or animals.

For respirable continuous filament glass fibers, a TLV-TWA of 1 fiber/cc was adopted to protect workers against mechanical irritation. The TLV-TWA of 5 mg/m^3 was adopted for non-respirable glass filament fiber, measured as inhalable dust, to prevent mechanical irritation of the upper respiratory tract.

Note: There are no known chronic health effects connected with long-term use or contact with these products.

Products that are chopped, crushed, or severely mechanically processed during manufacture or use may contain small amounts of respirable glass fiber-like fragments. Persistent respirable glass fibers are suspected to cause cancer. NIOSH defines "Respirable Fibers" as greater than 5 microns in length and less than 3 microns in diameter with an aspect ratio of ≥5:1 (length to width ratio).

Component Carcinogenicity

Fiber Glass (crushed/shredded continuous filament)(65997-17-3)
ACGIH: A4 – Not classified as a human carcinogen. IARC: Group 3 "not classified as to its carcinogenicity to humans" June 1987 meeting

Glass beads: There are no known reports of carcinogenicity of non-fibrous glass. Components are not listed by IARC, NTP, or OSHA as carcinogens.

Reproductive toxicity
PTFE: Not classified based on available information.
Glass fibers: This product does not contain any known or suspected reproductive hazards.
Glass beads: No evidence of reproductive effects.

STOT Specific Target Organ Toxicity - single exposure
PTFE: Not classified based on available information
Glass fibers: No known effects under normal use conditions.
Glass beads: No information provided.

STOT Specific Target Organ Toxicity - repeated exposure
PTFE: Not classified based on available information.
Glass fibers: None under normal use conditions.
Glass beads: No information provided.

Aspiration toxicity
PTFE: Not classified based on available information.
Glass fibers: Not applicable.
Glass beads: No information provided.

Section 12: Ecological Information

Ecotoxicity
PTFE: No data available.
Glass fibers: No data available for this product. This product is not anticipated to harm animals, plants, or fish.
Glass beads: No environmental hazards have been reported or known.

Persistence and degradability
PTFE: No data available.
Glass fibers: No information available.
Glass beads: This material is persistent but inert in aquatic systems. It will not bioconcentrate up the food chain.

Bioaccumulative potential
PTFE: No data available.
Glass fibers: No information available.
Glass fibers: No information reported.

Mobility in soil
PTFE: No data available.
Glass fibers: No information reported.
Glass beads: No information reported.

Results of PBT and vPvB assessment
PTFE: No information reported.
Glass fibers: No information reported.
Glass beads: Not classified as PBT or vPvB.

Other adverse effects
PTFE: No information reported.
Glass fibers: No information available.
Glass beads: No applicable.

Section 13: Disposal Considerations

Disposal methods

Waste from residues:	Dispose of in accordance with local regulations.
Contaminated packaging:	Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product

Section 14: Transport Information

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DRG
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation
49 CFR
Not regulated as a dangerous good

15. Regulatory Information

US Federal Regulations
Contact PTFE COMPOUNDS for more information

EPCRA – Emergency Planning and Community Right-to-Know
CERCL Reportable Quantity
This material does not contain any components with a CERCLA RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ
SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ

SARA 311/312 Hazards:
The Glass fibers identified as Immediate (acute) health hazard.

SARA 313:
Does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 31

TSCA Inventory Status (40 CFR 710):
All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

US State Regulations:
Contact PTFE COMPOUNDS for more information

The glass fiber used in this compound is listed in the following **International Inventories:**

Canada DSL	Yes
Canada NDSL	No
Australia AICS	Yes
Korea ECL	Yes
Philippines PICCS	Yes
Europe EINECS	Yes
Europe ELINCS	No
Japan ENCS	Yes
China EICSC	Yes

The glass bead used in this compound is listed in the following **International Inventories:**

Australia AICS	Yes
Canada DSL	Yes
Canada NDSL	Yes
German Water Hazard Classification VwVwS:	WGK Class 1 (low hazard to water)

International Regulations:
Contact PTFE COMPOUNDS for more information

16. Other Information

Revision Date: 05/28/2020
Contact person: SDS Coordinator
PTFE Compounds, Inc.
Elkton, MD 21921
(410) 392-9080 x103

The information is provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.

End of Safety Data Sheet