



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 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
Recommended use:	Resin for molding and/or extrusion
Restrictions on use:	Medical applications that involve permanent application in the human body
Manufacturer:	PTFE Compounds, Inc. 220 Chesapeake Boulevard Elkton, MD 21921
Telephone number:	1-410-392-9080
TeleFax:	1-410-392-9081

2. Hazard Identification

Hazard classification:	Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1900.1200.
GHS Label Elements:	
Signal word:	Not applicable
Symbols:	Not applicable
Pictograms:	Not applicable
Hazards not otherwise classified (HNOC):	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. Contains milled glass fibers which may cause temporary skin and mucous membranes itching due to mechanical abrasion and may contain a very small amount of respirable particulate. See Section 8 for Exposure Limit Data.
POTENTIAL HEALTH EFFECTS	
Eye contact	May cause mechanical irritation. Irritating, but will not permanently damage eye.
Skin contact	May cause slight skin irritation.
Inhalation	May cause irritation of respiratory tract.
Ingestion	Ingestion of this product is unlikely.
Chronic Health Effects	There is no known chronic health effect connected with long-term use or contact with this product.



Carcinogenicity	This product contains a component which is listed by IARC, OSHA, or NTP. See Section 11 for additional information.
Potential Environmental Effects	There is no known ecological information for this material.
Aggravation of Pre-Existing Conditions	Chronic respiratory or skin conditions may temporarily worsen from exposure to this product.
OSHA Regulatory Status	This product is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

3. Composition / Information of Ingredients

Chemical Name	CAS	% (weight)
Polytetrafluoroethylene	9002-84-0	50-95
Glass Fibers	65997-17-3	0-50
Glass Beads	65997-17-3	0-20

4. First Aid Measures

Inhalation:	Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. Consult a physician.
Ingestion:	Not a probable route of exposure. However, in case of accidental ingestion, consult a physician.
Skin Contact:	No hazards which require special first aid measures. DO NOT rub or scratch affected area. Wash off with soap and water. DO NOT use warm water because this will open the pores of the skin, which will cause further penetration of the glass fibers. Use a wash cloth to help remove glass fibers. 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.
Eye Contact:	DO NOT rub or scratch eyes. Hold eye open and rinse slowly and gently with water for 15-20 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Get immediate medical attention.
Most important symptoms and effects, both acute and delayed:	Polymer fume fever
Protection of first-aiders:	First Aid responders should pay attention to self-protection and use the recommended protective clothing.
Note to physician	Treat symptomatically

5. Fire Fighting Measures

Extinguishing Media:	Carbon dioxide (CO ₂), Dry chemical, Foam, Water fog
Unsuitable Extinguishing Media:	No applicable data available
Fire Fighting Procedures:	
Specific hazards:	Difficult to ignite, and flame goes out when initiating source is removed.
Hazardous Thermal Decomposition Products:	Acid fluorides, Fluorinated compounds, Hydrogen fluoride, Carbon dioxide, Ammonia, and Carbon monoxide



Special protective actions for fire-fighters: When firefighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.
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. Ventilate the area with fresh air. **Refer to protective measures listed in sections 7 and 8.** Material can create slippery conditions.

Environmental Precautions: Avoid release to the environment.

Methods and material for containment and clean up: Collect as much of the spilled material as possible. Use personal protective equipment as required. Use wet sweeping compound or water to avoid dusting. Sweep up. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material promptly.

Methods for Disposal: For disposal considerations see section 13.

7. Handling and Storage

Handling: For personal protection see section 8. Protect from contamination. When opening containers, avoid breathing vapors that may be emanating. Avoid breathing dust. Avoid contamination of cigarettes or tobacco with dust from this material. In case of insufficient ventilation, wear suitable respiratory equipment. Provide appropriate exhaust ventilation at dryers, machinery, and at places where dust or volatiles can be generated. Do not use a torch to clean this material from equipment without local exhaust ventilation and respirator.
Wash hands and face before breaks and immediately after handling the product.

Handling (Physical Aspects): Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Dust explosion class: Keep container tightly closed in a dry and well-ventilated place. Store away from heat. Protect from contamination.

Storage: Stable under recommended storage conditions.

Storage period: No applicable data available

Storage temperature: No applicable data available

8. Exposure Controls / Personal Protection

Control parameters:

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS	Agency	Limit type	Additional Comments
Polytetrafluoroethylene	9002-84-0	OSHA-PEL	5mg/m ³ TWA (respirable fraction) 15 mg/m ³ TWA (total dust)	
		ACGIH-TLV	3mg/m ³ TWA (respirable fraction) 10 mg/m ³ TWA (inhalable particles)	
		CMRG	5mg/m ³ TWA (respirable fraction) 10 mg/m ³ TWA (total dust)	
Glass fibers	65997-17-3	OSHA-PEL	--	
		ACGIH-TLV	1f/cc TWA (respirable fraction) 5 mg/m ³ TWA (inhalable fraction)	
		NIOSH-REL	--	

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

TWA : Time-Weighted-Average

STEL : Short Term Exposure Limit

CEIL : Ceiling

TLV : Threshold Limit Value

Engineering controls: Ensure adequate ventilation, especially in confined areas. Good ventilation should be provided to keep dust concentrations below the exposure limits. Local exhaust ventilation should be employed to minimize airborne contamination.

Personal protective equipment (PPE)

Respiratory Protection: When workers are facing concentrations above the exposure limit or irritation is experienced, they should wear NIOSH/MSHA approved respirators. Respiratory protection must be provided in accordance with current local regulations.

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

Eye/Face Protection: Safety glasses with side shields (or goggles)

Skin/ Body protection: Long sleeved shirt and long pants.
If there is a potential for contact with hot/molten material, wear heat resistant clothing and footwear.

Regular cleaning of equipment, work area, and clothing.

General Hygiene Considerations: Wash hands before breaks and Immediately after handling products. Remove and wash contaminated clothing before re-use.

9. Physical and Chemical Properties

Appearance:
Physical state: solid
Form: coarse powder or pellet
Color: White to off-white
Odor: none
pH: Not applicable
Boiling point / boiling range: No applicable data available
Melting point / range: 327-342°C (621-648°F)
Flash point: No flash point
Evaporation Rate: No applicable data available
Flammability (solid, gas): No applicable data available



Upper explosion limit:	No applicable data available
Lower explosion limit:	No applicable data available
Vapor pressure:	Not applicable
Vapor density:	No applicable data available
Specific Gravity (Relative density):	2.15-2.30 [@ 23°C][Ref Std: Water=1]
Solubility in water:	Insoluble
Solubility – non-water:	No applicable data available
Partition coefficient: n-octanol/water	No applicable data available
Auto-ignition temperature:	520-560°C
Ignition temperature:	530-550°C
Decomposition temperature:	No applicable data available
Viscosity	No applicable data available
Volatile by Volume, %:	0%
Limiting oxygen index:	>95%

10. Stability and Reactivity

Reactivity:	No decomposition if stored and applied as directed
Chemical stability:	The product is chemically stable. Stable under normal conditions.
Possibility of hazardous reactions:	During drying, cleaning, and molding; small amounts of hazardous gases and/or particulate matter may be released. These may irritate eyes, nose, and throat. Large molten masses may give off hazardous gasses.
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:	Finely divided aluminum powdered metals, potent oxidizers like fluorine (F ₂), and related compounds. Contact with incompatible materials can cause fire and explosion.
Hazardous Decomposition Products:	Hazardous thermal decomposition products – Acid fluorides, Fluorinated compounds, Hydrogen fluoride, Carbon dioxide, Ammonia, and Carbon monoxide

11. Toxicological Information

PTFE Granular	This product contains no substances classified as hazardous to health in concentrations which should be taken into account.
Further information	
Carcinogenicity	The carcinogenicity classification for this product and/or its ingredients has been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).
Inhalation	Inhalation – Rat TCLO: 16 mg/m ³ /6H/13W (Intermittent)[Lungs, Thorax, or Respiration – other changes] Inhalation – Rat TCLO: 5 mg/m ³ /7H/90W (Intermittent)[Tumorigenic – carcinogenic by RTECS criteria; Blood – leukemia](RTECS)

Glass fibers

Continuous filament glass fibers are not respirable according to the World Health Organization (WHO) definition. Respirable fibers have a diameter (d) smaller than 3µm, a length (l) larger than 5µm and a l/d ratio larger than or equal to 3. Fibers with diameters greater than 3 microns, which is the case for continuous filament glass fiber, do not reach the lower respiratory tract and, therefore have no possibility of causing serious pulmonary disease. Continuous filament glass fibers do not possess cleavage planes which would allow them to split length-wise in fibers of smaller diameter, rather they break across the fiber, resulting in fibers which are the same diameter as the original fiber with a shorter length and a small amount of dust. Microscopic examination of dust from highly chopped and pulverized glass demonstrated the presence of small amounts of respirable dust particles. Among these respirable particles, some were fiber-like in terms of l/d ratio (so-called "shards"). It can be clearly observed however that they are not regular shaped fibers but irregular shaped particles with fiber-like dimensions. To best of our knowledge, the exposure levels of these fiber-like dust particles measured at supplier's manufacturing plants are of the order of magnitude between 50 to 1000 below applicable limits.

* The International Agency for Research on Cancer (IARC) in June, 1987 and October, 2001 (see IARC Monographs on the Evaluation of Carcinogenic risks to humans – Man-made Vitreous Fibers – Volume 81), categorized continuous filament fiber glass 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 continuous glass filament glass fiber as a confirmed, probable, or even possible cancer causing material.

Chemical Name	ACGIH	OSHA	IARC	NTP
Continuous filament glass fibers 65997-17-3	--	--	Group 3	--

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 3 - Not classifiable as a human carcinogen

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

STOT - single exposure No known effects under normal use conditions.

STOT - repeated exposure None under normal use conditions.

Target Organ Effects No known effects under normal use conditions.

Aspiration hazard Not applicable.

Section 12: Ecological Information

Additional ecological information:

The product contains no substances classified as hazardous to the environment in concentrations which should be taken into account.



Section 13: Disposal Considerations

Waste disposal methods: Like most thermoplastic plastics the product can be recycled. If recycling is not practicable, dispose of in compliance with local regulations. Incinerate only if incinerator is capable of scrubbing out hydrogen fluoride and other acidic combustion products.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

EPA Hazardous Waste Number (RCRA): Not regulated

Section 14: Transport Information

Not classified as dangerous in the meaning of transport regulations

15. Regulatory Information

TSCA: On the inventory, or in compliance with the inventory.

SARA 313 Regulated Chemical(s): This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimus) reporting levels established by SARA Title III, Section 313.

State Regulations: This product or its ingredients have been evaluated for the following states. Substances that are subject to notification requirements, if any, are listed below.

Components	PARTK
Polytetrafluoroethylene	Listed (PARTK)

Components	MNRTK
Glass Fibers	Listed (MNRTK)

Components	CA Prop 65
Tetrafluoroethylene	Listed

International Inventories:

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Continuous filament glass fibers 65997-17-3	X	X		X		X	X	X	X	X

Legend:

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances



16. Other Information

Hazard classification:	Health	Flammability	Reactivity	Special Hazards
	2	1	0	None

Restrictions for use: This material should not be used in medical applications involving permanent implantation in the human body or contact with internal body fluids or tissues. For further details please contact us at mail@ptfecompounds.com.

Revision Date: 09/07/2015

Contact person: MSDS Coordinator
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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