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Material Safety Datasheet

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Section 1 – Identification

PRODUCT DESCRIPTION:	TRADE NAME:
Fiberglass Reinforced Plastics (FRP) Pultruded Tube	Fiberglass Square Tube
and Rod	
Recommended Use:	Restrictions on Use:

Section 2 – Composition/Information on Ingredients

COMPONENT IDENTIFICATION	WEIGHT %
E-Glass Fiber Glass	50-60%
Isophthalic Polyester, or Vinyl Ester Resins	20-25%
Filler, Fire-Retardant Agents, UV, Pigment, Inhibitor	17-25%

Section 3 – Physical/Chemical Properties

Physical State (Room Temperature)	Solid
Odor	No Significant Odor to slight plastic odor
Appearance	Rigid, Solid Sheet; Various Colors/Textures
Odor Threshold	Not Applicable
Boiling Point	Not Applicable
Freezing Point	Not Applicable
Percent Volatile by Volume	Not Applicable
Specific Gravity	>1
Evaporation Rate (Butyl Acetate = 1)	Not Applicable
Vapor Pressure	Not Applicable
Vapor Density (Air = 1)	Not Applicable
рН	Not Applicable
Coefficient of Water/Oil Distribution	Not Determined
Solubility in Water (% by Weight)	Not Soluble

Section 4 – Stability and Reactivity

Stability	Stable under conditions of storage and use
Conditions to Avoid	Store away from excessive heat and other ignition sources
Incompatibility (Materials to Avoid)	None known
Hazardous Decomposition Products	Combustion of the material can release hydrocarbons and
	oxides of nitrogen and carbon
Hazardous Polymerization	Will not occur

Section 5 – Fire-Fighting Measures

Flash Point	None
Flammability Limits in Air	None
Auto-Ignition Temperature	Cannot be exactly determined – cannot be easily ignited
Extinguishing Media	Water or Foam
Fire Fighting Process	Carbon Particles – air respirator recommended

Section 6 – Health Hazards Identification

As manufactured, continuous fiberglass tube and rod, is non-respirable. May cause temporary skin and mucous membranes itching due to mechanical abrasion effect of fibers. Under normal conditions of use, these my release dust and non-respirable fibers (Particulates Not Otherwise Regulated). Under severe process conditions (e.g. shredding, crushing), these products may release very small amount of respirable particulate, some of which may be fiber-like in terms of I/d ratio (so-called "shards"). You may find here below some occupational exposure limits for Respirable dust, Total dust and Respirable Fibre.

OSHA PEL: TWA for Inert or Nuisance Dust are: 5 mg/m³ (Respirable fraction) and 15 mg/m³ (Total Dust)

Acute Effect: None by contact with product; dust generated from cutting or grinding can penetrate into the pores of the skin and cause itching; avoid breathing dust.

Routes of Entry: Skin contact or inhalation of dust when cutting or grinding.

Medical Conditions Aggravated by Exposure: People who have conditions that would be aggravated by dust should avoid cutting or grinding.

Section 7 – Disposal Considerations

Refer to local laws; this product is not considered hazardous waste.

Section 8 – Handling and Storage

Individual protection measures, such as personal protective equipment

	Protection / Prevention	Decontamination Measure
Eyes and Face:	Safety glasses with side shields (or goggles)	Flush with eye wash solution.
Skin and Body:	Protective gloves, long- sleeved shirt and long pants	 Wash off immediately with soap and plenty of cold water DO NOT use warm water because this will open up the pores of the skin, which will cause further penetration of fibers and dust DO NOT rub or scratch affected area Use a wash cloth to help remove fibers and dust If fibers are seen penetrating from 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
Respiratory / Inhalation:	N95, KN95 or FFP2 masks.	Remove people from dust area
Ingestion:	N95, KN95 or FFP2 masks.	Rinse mouth with water and drink water to remove fibers from the throat
General Hygiene Considerations:	Wash hands before breaks and immediately after handling products Remove and wash contaminated clothing before re-use.	

Product Information	Dusts and fibers may cause temporary skin and mucous membranes itching due to mechanical abrasion effect of fibers. Mechanical abrasion is not considered as a health hazard in the meaning of the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Inhalation may cause coughing, nose and throat irritation and sneezing. High exposures may cause difficult breathing, congestion and chest tightness. 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 into fibers with smaller diameters, rather they break across the fiber, resulting in fibers which are of 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 the best of our knowledge, the exposure levels of these fiber-like dust particles measured at our manufacturing plants are of the order of magnitude between 50 to 1000 below existing applicable limits
ACGIH (American Conference of Governmental Industrial Hygienists)	Continuous filament glass fibers are classified as A4 - Not Classifiable as a Human Carcinogen
IARC (International Agency for Research on Cancer)	The International Agency for Research on Cancer (IARC) in June, 1987, and in 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 filament glass fiber as a confirmed, probable or even possible cancer-causing material
NTP (National Toxicology Program)	Continuous filament glass fibers are not listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	X - Present
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Continuous filament glass fibers are not listed in the Table of harmonized classification entries in Annex VI to CLP Regulation. Mechanical abrasion is not considered as a health hazard in the meaning of European Regulation 1272/2008 (CLP).

Section 10 – Ecological Information

This product is not expected to be hazardous for the environment

Section 11 – Disposal Considerations

Continuous filament glass fiber waste is a non-hazardous waste. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 12 – Transport Information

These products are not classified as dangerous goods according to international transport regulations.

Section 13 – Regulatory Information

International Inventories:	continuous fiberglass products are articles. Articles areexempted from registration or
	listing under chemicals inventories like TSCA (USA), DSL/NDSL (CAN), REACH (EU),
	ENCS (JP), IECSC (CN), KECL (KR), PICCS (PH), AICS (AUS), TCSI (Taiwan).
California Proposition 65:	This product is not regulated under California Proposition 65

Prepared By: Paul Bond Creation Date: 10/01/2018 Revision Date: 01/01/2024 Revision Note: complete review

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