

Product name	Fortron®		TNA/EN
MSDS number	87042008	Revision Date	Oct.01.2013
Revision Number	1.01	Issuing date	Mar.07.2014

1. Identification of the substance/preparation and of the company/undertaking

The following SDS applies to products described by combinations of the following trade name, product grade and color code listed below.

Trade Name

Fortron®

Color Code:

See Section 16 for list of Color Codes

Manufacturer, importer, supplier

Ticona Polymer, Inc.

A business of Celanese

8040 Dixie Hwy.

Florence, KY 41042

United States

www.celanese.com

Transportation emergency phone numbers:

In USA, call 800 424 9300

Outside USA, call 703 527 3887, collect calls accepted.

Product Information

1-800-833-4882

info-engineeredmaterials-am@celanese.com

Synonyms:

Polymer of p-Dichlorobenzene / Disodium Sulfide

Polyphenylene sulfide / PPS

Identified uses

Plastic processing industry.

2. Hazards identification

Emergency Overview

WARNING!

May cause eye, skin, and respiratory tract irritation

Possible cancer hazard. Contains material which may cause cancer based on animal data. Risk of cancer depends on duration and level of exposure.

Potential health effects

Immediate effects

Skin

Polymer particles may cause mechanical irritation. The molten product can cause serious burns.

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Eyes Resin particles, like other inert materials, are mechanically irritating to eyes

Inhalation Dust irritating to respiratory tract. Overheating in processing may generate hazardous, irritating vapours.

Ingestion Low toxicity by this route is expected based on the biological activity of high molecular weight polymers.

Other: Titanium Dioxide is listed by IARC as possibly carcinogenic to humans (Group 2B) based on inadequate evidence of carcinogenicity in humans and sufficient evidence in experimental animals.

Medical conditions which may be aggravated by exposure: No specific information available on the product. Off-gases, which may be released if overheated, may affect those with chronic diseases of the respiratory system.

3. Composition/information on ingredients

Chemical characterization Polyphenylene Sulfide /PPS, glass fiber reinforced
CAS-RN. of the basic polymer: 26125-40-6

Components	CAS-No	Percent %
Glass oxide; Fiberglass continuous filament	65997-17-3	1-60

This product may contain proprietary ingredients.
This is a polymeric material. Any hazardous constituents are wetted by the polymer system, and therefore are unlikely to present exposure under normal conditions of processing and handling.

4. First aid measures

Skin
Cool skin rapidly with cold water after contact with molten polymer. Immediate medical attention is required. Do not peel solidified product off the skin.

Eyes
Immediately flush eye(s) with plenty of water. Call a physician if irritation persists.

Inhalation
Move to fresh air in case of accidental inhalation of vapors. Get medical attention immediately if symptoms occur.

Ingestion
If swallowed, do not induce vomiting - seek medical advice.

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Notes to physician

This product is essentially inert and nontoxic. However, if it is heated at too high a temperature or if it burns, gases may be released. Gases that may be formed are extremely foul smelling, even at low and relatively nontoxic concentrations. Patients who have been exposed to off-gases may need to have their arterial blood gases and carboxyhemoglobin levels checked. If the carboxyhemoglobin levels are normal, the patients may still have suffered asphyxia from carbon dioxide replacing oxygen if they were exposed in an enclosed space. While it is unlikely that enough hydrogen sulfide would be formed to cause hydrogen sulfide poisoning, the possibility should be considered if the clinical picture is consistent (similar to cyanide toxicity). Sulfur oxides are respiratory tract irritants. Other irritant gases may also have been formed in lesser amounts. If patients may have inhaled high concentrations of irritating fumes, they should be monitored for delayed onset pulmonary edema. The sulfides and mercaptans can cause nausea and headache as a result of their foul odor

5. Fire-fighting measures

Suitable extinguishing media

The product in solution form does not burn. The product will burn only after the water it contains is driven off. For dry polymer, use alcohol resistant foam, carbon dioxide (CO₂) or dry chemical.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases

Carbon monoxide
Carbon dioxide (CO₂)
Sulfur oxides (SO_x)

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus and protective suit.

6. Accidental release measures

Personal precautions

Remove all sources of ignition. Avoid dust formation.

Environmental precautions

No special environmental precautions required.

Methods for cleaning up

Use mechanical handling equipment. Dispose of in accordance with local regulations.

7. Handling and storage

Advice on safe handling

Do not handle hot or molten material without appropriate protective equipment. Maintain good housekeeping in work areas. Do not exceed recommended process temperatures to minimize release of decomposition products.

Protection - fire and explosion

Do not smoke in areas where polymer dust is present. Appropriate measures should be taken to control the generation and accumulation of dust during conveying and processing operations. Electrical grounding of equipment and the minimization of ignition sources is required when handling powder to avoid possible dust explosion.

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Material storage

Store in a cool dry place.

Incompatible products

Halogene strong oxidizing agents Aromatic solvents

8. Exposure controls/personal protection

OSHA Exposure Limits

No exposure limits established.

ACGIH Exposure Limits

Components	TWA
Glass oxide; Fiberglass continuous filament	5 mg/m ³ 1 fibers / cm ³

Mexico National Exposure Limits

Components	LMPE - PPT
Glass oxide; Fiberglass continuous filament	10 mg/m ³

Exposure controls

Engineering measures

General: May not be adequate as the sole means to control employee exposure.

Local Exhaust: Recommended when appropriate to control employee exposure to dust or process vapors

General advice

Do not breathe dust. When using, do not eat, drink or smoke.

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment

Skin protection:

When thermal or melt processing, wear long pants, long sleeves, well insulated gloves, and face shield when there is a chance of contact.

Eye/face protection:

Safety goggles. safety glasses with side-shields.

Comments:

Operations involving grinding and machining of parts should be reviewed to assure that particulate levels are kept below recommended standards

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9. Physical and chemical properties

Appearance

Form	powder pellets
Odor	slight , specific .
Flash point	> 480°C(896°F)
Density	approx 1.3 - 2.1 g/ml @ 20°C
Method	ISO 1183, Process A
Water solubility	insoluble

10. Stability and reactivity

Chemical stability

Stable under normal conditions.

Conditions to avoid

Flame. Avoid prolonged heating at or above the recommended processing temperature. Do not heat above 698°F (370 °C). Fine powder may present a dust explosion hazard. Electrical grounding of equipment and the minimization of ignition sources is required when handling powder to avoid possible dust explosion.

Incompatible Materials

strong oxidizing agents, Halogens, aromatic solvents.

Hazardous Combustion or Decomposition Products:

Phenyl sulfides, n-methyl-2-pyrrolidone, dichlorobenzene, phenyl mercaptan, hydrogen sulfide, butyrolactone, mesityl oxide, acetic acid, phenol, formic acid, succinic acid, chlorine, palmitic acid, p-chlorothiophenol, stearic acid, aromatic compounds, chlorinated aromatic compounds, carbonyl sulfide, and sulfur compounds.

11. Toxicological information

No data is available on the product itself

12. Ecological information

Ecotoxicity:

The effects of resin pellets on the wildlife that may ingest them is not well understood. In the case of seabirds, some marine biologists believe that the fowl may not be able to pass plastic pellets through their digestive tracts. Thus, large quantities of ingested pellets may cause intestinal blockage, false feelings of satiation or reduction in absorption of nutrients, causing malnutrition and starvation. The goal of SPI's Operation Clean Sweep is zero loss of pellets into the environment.

Environmental Fate/Information:

This material is considered to be non-biodegradable.

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13. Disposal considerations

Disposal considerations

Recycling is encouraged. Dispose of spilled material in accordance with state and local regulations for waste that is non-hazardous by Federal definition. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete.

This product as shipped is not a RCRA hazardous waste under present EPA regulations

14. Transport information

US Department of Transportation Not regulated

TDG Not regulated

Mexico Transport Information Not regulated

ICAO/IATA Not restricted

IMDG Not regulated

15. Regulatory information

U.S. FEDERAL REGULATIONS

TSCA Inventory

This product complies with the U.S. Toxic Substances Control Act (TSCA).

SARA 313 Chemicals

Contains no substances at or above the reporting threshold under Section 313.

CANADIAN REGULATIONS

WHMIS Classification:

Not a WHMIS controlled product.

WHMIS Ingredient Disclosure List IDL:

Fiberglass (65997-17-3)

16. Other information

NFPA:	Health: 1	Flammability: 1	Instability: 0
HMIS:	Health: 1	Flammability: 1	Physical Hazard: 0

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16. Other information

Prepared By

Product Stewardship Department
Celanese

Other Information:

Observe national and local legal requirements

Except as otherwise noted, all of the trademarks referenced herein are owned by Ticona or its affiliates.

Changes against the previous version are marked by ***

This product is not intended for use in medical or dental implants.

The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. Celanese makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. User has sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.

Abbreviation and Acronym:

ADR = Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

CAS = Chemical Abstracts Service (division of the American Chemical Society)

CLP = Classification, Labelling and Packaging

DNEL = Derived No Effect Level

EINECS = European Inventory of Existing Commercial Chemical Substances

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IMO)

ICAO = International Civil Aviation Organization

IMDG = International Maritime Code for Dangerous Goods