Material Safety Data Sheet

Polymics, Ltd.
High Performance Polymers & Compounds

8-10-2012

I. Product and Company Identification

Trade name: Pyramid® SE2000-NT, SE2000-BK

Part Number: PPS

Chemical Family: Poly(phenylene sulfide)

Molecular Weight: Polymer

Company:
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II. Composition & Information on Ingredients

Substance	wt %	Exposure Limit
PPS (Polyphenylene Sulfide)	95 - 100 %	OSHA PEL TWA 15 mg/m^3 total dust (5 mg/m^3 respirable dust) ACGIH TLV TWA 10 mg/m^3 total dust (3 mg/m^3 respirable dust)
Colorant	0 - 5 %	OSAH PEL 8hr TWA 3.5 mg/m3 and ACGIH TLV (8-hr TWA) 3.5 mg/m3

III. Hazards Identification

EMERGENCY OVERVIEW:

- Spilled material may create slipping hazard.
- Can burn in a fire creating dense, toxic smoke
- Molten plastic can cause severe thermal burns.
- Fumes produced during melt processing may cause eye, skin, and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills, and fever.
- Secondary operations, such as grinding, sanding, or sawing can produce dust which may present an explosion or respiratory hazard.

Hazard Rating:

Health	**1**
Flammability	**1**

Reactivity	**0**

Potential Personal Hazards

Skin: Powder not likely to cause skin irritation. Molten plastic can cause severe burns to uncovered skin.

Eyes: Product may cause irritation due to mechanical action.

Inhalation: May cause irritation. Fumes produced during melt processing may cause eye, skin, and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills and fever.

Ingestion: Seek immediate medical attention.

Precautions: Processing fumes inhalation may be irritating to the respiratory tract. If symptoms are experienced remove victim from the source of contamination or move victim to fresh air and obtain medical advice.

IV. First Aid Measures

Skin: Not anticipated under normal conditions. In case of molten product to skin contact, immerse and/or flush affected area with large amounts of cold water. Do not peel off. Seek medical attention immediately.

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists, consult a specialist.

Inhalation: Flu-like symptoms are expected if thermal decomposition products are inhaled. Chills, fever, headache, shortness of breath, and coughing are expected. If symptoms persist, consult a physician.

Ingestion: Not immediately anticipated under normal conditions. If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Note to Physicians: While basically inert and nontoxic, if processed at too high of a temperature or if it burns, extremely foul smelling gases may be formed. Patients who have been exposed to off-gasses 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 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.

V. Fire-Fighting Measures

Suitable Extinguishing Media:	Use water, carbon dioxide, foam, or dry chemicals for fires
Combustion Product Hazards:	Fire will produce dense black smoke containing hazardous combustion products, including intense heat, sulfur oxides, carbon monoxide and carbon dioxide
Protective Equipment:	Use of self contained breathing apparatus and protective clothing is required. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.
Specific Hazards:	Dust requires a high temperature ignition source to ignite.

VI. Accidental Release Measures

General:	Remove all sources of Ignition. Sweep or gather up material and place in proper container for disposal or recovery. Do not create a powder cloud by using a brush or compressed air.
Waste Disposal:	Incinerate in a licensed facility. Do not discharge into waterways or sewer systems.
Container Disposal:	Unused material and empty containers must be disposed of in accordance with local, state and federal regulations.
Environmental Caution:	Do not flush into surface water or sanitary sewer system. Should not be released into the environment.

VII. Handling Storage

Handling:	Follow good-standard industrial hygiene practice and provide adequate ventilation. Use adequate ventilation and aggressive housekeeping practice to prevent dust accumulation.
Storage:	Inert material under normal storage conditions. No specific precautions required.

VIII. Exposure Control / Personal Protection

Exposure Limit for Dust		
Total Dust:	15 mg/m^3	Time weighted average (TWA) permissible exposure limit (PEL):(OSHA Z1)
Respirable Fraction:	5 mg/m^3	Time weighted average (TWA) permissible exposure limit (PEL):(OSHA Z1)
Inhalable Fraction:	10 mg/m^3	Time weighted average (TWA):(ACGIH)
Respirable Fraction	3 mg/m^3	Time weighted average (TWA):(ACGIH)

Exposure Controls

Guidelines/Limits: No components with information, unless noted below

Engineering Controls: Ensure good ventilation or exhaust if there is the possibility of fumes being evolved. Local exhaust is recommended to control employee exposure to dust.

Personal Protection

Respiratory Protection: If airborne dust is produced through handling, grinding, sanding or sawing molded parts, and is not adequately controlled through ventilation, use a respirator approved for protection from dust. When using this product at elevated temperatures, implement engineering systems, administrative controls or a respiratory protection program (including a respirator approved for protection from organic vapors, acid gases and particulate matter) if processing fumes are not adequately controlled or operators experience symptoms of overexposure. If dust of powder is produced from secondary operations such as sawing or grinding, use a respirator approved for protection from dust.

Hand Protection Gloves in case of frequent contact with hot material.

Eye/Face Protection: Safety glasses with side-shields or chemical goggles. In addition, use full-face shield when cleaning processing fume condensates from hood, ducts, and other surfaces.

Skin Protection: Long sleeve shirt and full pants are recommended to avoid possibility of hot material coming into contact with skin. Impervious gloves and an apron are also suggested.

Hygiene Measures: When using, do not eat, drink or smoke.

IX. Physical & Chemical Properties

Appearance:	Brown pellets semi-transparent	**Specific Gravity:**	1.35
Physical State:	Solid	**Flash Point:**	>480 ℃
Boiling Point:	N/A	**Solubility In Water**	Insoluble
Melting Point:	536 ℉	**Vapor Pressure:**	N/A
Thermal Decomposition:	>700 ℉	**% Volatiles:**	N/A
Odor:	odorless		

X. Stability and Reactivity

Stability: Stable at normal conditions. Hazardous polymerization does not occur.

Reactivity: Not reactive under recommended conditions of handling, storage, processing and use. Heat >700 ℉ will cause decomposition.

Hazardous Decomposition: Processing fumes evolved above recommended processing conditions may include sulfur oxides, carbon monoxide, and carbon dioxide.

Conditions to Avoid: To avoid thermal decomposition, do not overheat. Heating can release hazardous gases. Do not exceed melt temperature recommendations in product literature. In order to avoid auto-ignition/hazardous decomposition of hot thick masses of plastic, purgings should be collected in small, flat, shapes or thin strands to allow for rapid cooling. Quench in water. Do not allow product to remain in barrel at elevated temperatures for extended periods of time: purge with a general purpose resin.

XI. Toxicological Information

Toxicity of Product: non-toxic when used within recommended guidelines

LD50/oral/rat: >5000 mg/kg
LD50/dermal/rabbit: >2000 mg/kg

XII. Ecological Information

Ecological Information: Do not flush into surface water or sanitary sewer system.

Other Information: Ecological damages are not known or expected under normal use. However, the material is not biodegradable.

XIII. Disposal Considerations

Waste Disposal: Recycling is encouraged. Landfill or incinerate in accordance with federal, state and local requirements. Collected processing fume condensates and incinerator ash should be tested to determine waste classification.

US EPA Waste Number: None

XIV. Transport Information

Transport Classification: Not regulated as hazardous for shipment under current transportation guidelines.

XV. Regulatory Information

TSCA (USA):	Listed
IECSC (China):	Not Listed
DSL/NDSL (Canada):	Not Listed
EINECS/ELINCS (Europe):	Listed
KECL (Korea):	Not Listed

Other Inventory Information:
A "Listed" entry above means all chemical components are on the respective inventory list and/or a qualifying exemption exists for one or more components.

SARA 313:
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

XVI. Other Information

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