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# MATERIAL SAFETY DATA SHEET

## GENERAL PURPOSE POLYSTYRENE (GPPS)

### SECTION 1 – Chemical Product Identification

**PRODUCT IDENTIFIER:**
**CHEMICAL NAME**

Crystal Polystyrene

**CHEMICAL FAMILY**

Thermoplastic polymer

**TRADE NAME**

PORENE

**GRADES APPLICABLE**

GP110, GP150

**SYNONYMS**

General Purpose Polystyrene (GPPS), PS, Crystal Polystyrene

**CHEMICAL FORMULA**
 $((C_6H_5)CHCH_2)_n$ 
**PRODUCT USE:**

Can be used to produce injection or extrusion molded articles for commercial or industrial products.

### SECTION 2 – Composition/Information on Ingredients

**MATERIAL OR COMPONENT**

Crystal Polystyrene

**CAS Registry Number:**

9003-53-6

Not a hazardous material. Meets FDA Requirements for Food Containers 21 CFR 177.1640

**EC-Number:**

500-008-9

### SECTION 3 – Hazards Identification

EMERGENCY OVERVIEW

Molten material can cause thermal burns. May be an irritant to eye, skin, and respiratory tract when processed at high temperatures.

**THRESHOLD LIMIT VALUE**

N.E.

ACUTE EFFECTS OF OVEREXPOSURE
**INHALATION**

Negligible hazard at room temperature. Irritation vapors to respiratory system may form when polymer is processed at high temperatures.

**SKIN CONTACT & ABSORPTION**

Molten or heated material when in contact with skin can cause severe thermal burns. Cold material is not expected to be hazardous to the skin.

**EYE CONTACT**

Irritating vapors may be formed when polymer is processed at high temperatures. Thermal burns from hot material can occur.

INGESTION	No effects are expected for ingestion of small amounts.
<b>SECTION 4 – First Aid Measures</b>	
<u>EMERGENCY FIRST AID PROCEDURES</u>	
INHALATION	Remove person to fresh air. Seek medical attention.
SKIN CONTACT & ABSORPTION	For serious burns, get medical attention. In case of skin contact with hot polymer, immediately immerse in or flush with clean, cold water.
EYE CONTACT	Flush with plenty of water if irritation occurs.
INGESTION	No first aid procedures are required.
<b>SECTION 5 – Fire Fighting Measures</b>	
<u>FLAMMABILITY:</u> MEANS OF EXTINGUISHMENT	Dry chemicals, foam, water, carbon dioxide, and halon. Do not use water jets for large fires.
FLASH POINT	N.E.
FLAMMABLE LIMITS	Upper and lower values N.E.
AUTO-IGNITION TEMPERATURE:	400°C
EXPLOSION DATA	Not Available
HAZARDOUS COMBUSTION PRODUCTS	Carbon monoxide, carbon dioxide, and styrene monomers. Fire may produce irritation gases and dense smoke.
<b>SECTION 6 – Accidental Release Measures</b>	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Pellets on the floor could present a serious slipping problem. Good housekeeping must be maintained at all times to avoid this hazard. Sweep, shovel, or vacuum material into clean containers.
<b>SECTION 7 – Handling and Storage</b>	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Exposure of polystyrene to extremely high temperatures (315°C or higher) may cause partial decomposition. Chemicals that may be released include styrene monomer, benzene, and other hydrocarbons. Handling of pellets may form dust. Filter and ventilate dust where necessary.
OTHER PRECAUTIONS	Store in a cool, dry place. Keep away from heat sources and strong oxidizing agents.

### SECTION 8 – Exposure Control/ Personal Protection

#### EXPOSURE CONTROL

Ventilation, enclosures, or other controls may be needed to keep airborne contaminants below exposure limits.

#### RESPIRATORY PROTECTION

Wear respiratory protection if ventilation is inadequate. Breathing protection if dust is formed.

#### PROTECTIVE CLOTHING

Gloves required when handling hot material. In case of fire, wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.

#### EYE PROTECTION

Safety goggles.

#### VENTILATION

Provide adequate ventilation when processing material at elevated temperatures.

#### OTHER PROTECTIVE EQUIPMENT

N.A.P.

### SECTION 9 – Physical and Chemical Properties

PHYSICAL STATE:	Solid
ODOR AND APPEARANCE:	Transparent pellets, odorless
ODOR THRESHOLD (ppm):	N.E.
SPECIFIC GRAVITY (WATER=1)	1.04
VAPOR DENSITY (AIR=1)	N.A.P.
VAPOR PRESSURE (mmHg)	N.A.P.
EVAPORATION RATE	N.A.P.
PERCENT VOLATILE (VOL %)	NIL
BOILING POINT (DEG C)	N.A.P.
SOFTENING TEMPERATURE	>80°C
pH	7
SOLUBILITY IN WATER	Insoluble

### SECTION 10 – Stability and Reactivity

STABILITY	CONDITIONS TO AVOID
STABLE	Temperatures of 300°C+
INCOMPATIBILITY (MATERIALS TO AVOID)	
Can form explosive mixtures with some organic solvents. Reacts to strong oxidants.	
HAZARDOUS DECOMPOSITION PRODUCTS	
Carbon dioxide, carbon monoxide, hydrocarbons, dense smoke.	
HAZARDOUS POLYMERIZATION	CONDITIONS TO AVOID
Will not occur.	N.A.P.

### SECTION 11 – Toxicological Information

TOXICITY:	<u>CHRONIC EFFECTS OF OVEREXPOSURE</u>
LD50: N.E., LC50: N.E.	NOT A KNOWN CARCINOGEN.
INGESTION, INHALATION, SKIN: Non-toxic	NTP: NO
SKIN AND EYE IRRITATION: Prolonged contact with product can result in skin and eye irritation.	IARC: NO
	OSHA: NO

### SECTION 12 – Ecological Information

**PERSISTENCE & DEGRADABILITY**

No information available.

**BIOACCUMULATION POTENTIAL**

Insoluble in water. Not expected to be bioaccumulative.

**OTHER EFFECTS**

Not expected to pose a significant ecological hazard.

### SECTION 13 – Disposal Considerations

TRANSFER TO AN APPROVED DISPOSAL AREA IN ACCORDANCE WITH NATIONAL, STATE AND LOCAL REGULATIONS. RECYCLING UNCONTAMINATED PACKAGING RECOMMENDED.

### SECTION 14 – Transport Information

Not Regulated (USA).

Not classified as hazardous under transport regulations (ADR RID ADNR IMDG/GGVSeeICAO/IATA).

### SECTION 15 – Regulatory Information

Material is not regulated by D.O.T.

Material is in the TSCA Inventory.

Material is not subject to SARA 313 reporting requirements.

Hazard Material Information System (USA) Health – 0, Flammability – 1, Reactivity – 0.

National Fire Protection Association (USA) Health – 0, Flammability – 1, Reactivity – 0.

Material is not controlled under WHMIS (Canada).

Material is not listed in EINECS.

Material is not controlled under DSCL (EEC).

Material does not require a hazard-warning label by EC Directives (EU).

### SECTION 16 – Other Information

LEGAL DISCLAIMER: WHILE THE INFORMATION HEREIN IS BELIEVED TO BE RELIABLE, NO GUARANTEE IS MADE AS TO ITS ACCURACY OR COMPLETENESS. THE CONDITIONS OF USE, HANDLING, STORAGE, AND DISPOSAL, AND THE SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL. CONSEQUENTLY, ALL RISKS INVOLVING THE USE OF THE PRODUCT ARE ASSUMED BY THE USER. WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

N.E. = NOT ESTABLISHED, N.AP. = NOT APPLICABLE, N.AV. = NOT AVAILABLE

T.C. = LIST TOXIC CHEMICAL UNDER SEC. 313 OF TITLE III OF SARA 1986