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MATERIAL SAFETY DATA SHEET

ACRYLONITRILE BUTADIENE STYRENE (ABS)

TYPE GENERAL PURPOSE

SECTION 1 – Chemical Product Identification

PRODUCT IDENTIFIER:	
CHEMICAL NAME	Acrylonitrile Butadiene Styrene
TRADE NAME	PORENE
GRADES APPLICABLE	GA850/GA800, MH-1, GA300, GA400, SP100, SP200, SR101, AP102
SYNONYMS	ABS, ABS resin, Kralastic
CHEMICAL FAMILY	Thermoplastic polymer
FORMULA	$(C_3 -H_3 -N)_n (C_4 -H_6)_n (C_8 -H_8)_n$
PRODUCT USE:	Can be used to produce injection or extrusion molded articles for commercial or industrial products.

SECTION 2 – Composition/Information on Ingredients

Base Resin:	CAS Registry Number:
Acrylonitrile-butadiene-styrene copolymer	9003-56-9
Additives	N/A

Product contains high molecular weight polymers, and is not expected to be chemically active under normal conditions of handling and processing.

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.

<p><u>ACUTE EFFECTS OF OVEREXPOSURE</u></p> <p>INHALATION</p> <p>SKIN CONTACT & ABSORPTION</p> <p>EYE CONTACT</p> <p>INGESTION</p>	<p>Negligible hazard at room temperature. Irritation vapors to respiratory system may form when polymer is processed at high temperatures.</p> <p>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.</p> <p>Irritating vapors may be formed when polymer is processed at high temperatures. Thermal burns from hot material can occur.</p> <p>No effects are expected for ingestion of small amounts. May cause gastric disturbances.</p>
<p>SECTION 4 – First Aid Measures</p>	
<p><u>EMERGENCY FIRST AID PROCEDURES</u></p> <p>INHALATION</p> <p>SKIN CONTACT & ABSORPTION</p> <p>EYE CONTACT</p> <p>INGESTION</p>	<p>Remove person to fresh air. Seek medical attention.</p> <p>For serious burns, get medical attention. In case of skin contact with hot polymer, immediately immerse in or flush with clean, cold water.</p> <p>Flush with water for at least 20 minutes. Seek medical attention if irritation persists.</p> <p>No first aid procedures are required. Seek medical attention if a significant amount is swallowed.</p>
<p>SECTION 5 – Fire Fighting Measures</p>	
<p><u>FLAMMABILITY:</u></p> <p>MEANS OF EXTINGUISHMENT</p> <p>FLASH POINT</p> <p>FLAMMABLE LIMITS</p> <p>AUTO-IGNITION TEMPERATURE:</p> <p>EXPLOSION DATA</p> <p>HAZARDOUS COMBUSTION PRODUCTS</p>	<p>Dry chemicals, foam, water, carbon dioxide, and halon. Do not use water jets for large fires.</p> <p>349°C</p> <p>Upper and lower values N.E.</p> <p>>400°C</p> <p>Accumulation of fines can create a dust explosion.</p> <p>Carbon dioxide, carbon monoxide, traces of hydrogen cyanide and hydrocarbon fragments. Fire may produce irritation gases and dense smoke.</p>

SECTION 6 – Accidental Release Measures

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.

SECTION 7 – Handling and Storage

HANDLING PROCEDURES AND EQUIPMENT

Do not handle material without proper protective equipment. Provide adequate ventilation. Maintain good housekeeping in work areas.

STORAGE REQUIREMENTS

Store in a cool, dry place in the original container when possible. Store below 50°C Keep away from moisture, excessive heat and sources of ignition. Do not place in direct sunlight.

SECTION 8 – Exposure Control/ Personal Protection

EXPOSURE LIMITS: Styrene

ACGIH TLV TWA 20 ppm; STEL 40ppm

OSHA PEL TWA 100 ppm; CLV 200 ppm; maximum concentration 600 ppm

EXPOSURE CONTROL

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

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION

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

EYE PROTECTION

Chemical workers' goggles recommended.

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.

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:

Plastic pellets in natural or compounded color with characteristic odor.

ODOR THRESHOLD (ppm):	N.E.
SPECIFIC GRAVITY (WATER=1)	1.04-1.07
VAPOR DENSITY (AIR=1)	N.AP.
VAPOR PRESSURE (mmHg)	N.AP.
EVAPORATION RATE	N.AP.
PERCENT VOLATILE (VOL %)	NIL
BOILING POINT (DEG C)	N.AP.
SOFTENING TEMPERATURE	>100°C
PH	7
COEFFICIENT OF WATER/OIL DISTRIBUTION	N.E.
SOLUBILITY IN WATER	Insoluble
SOLUBILITY (QUALITATIVE)	Soluble in polar solvents.

SECTION 10 – Stability and Reactivity

STABILITY: STABLE

INCOMPATIBILITY WITH OTHER SUBSTANCES (MATERIALS TO AVOID)

Avoid solvents and oxidizing agents.

REACTIVITY: UNREACTIVE

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide, carbon dioxide, styrene, acrylonitrile, hydrocarbon, cyanide

HAZARDOUS POLYMERIZATION

Will not occur.

CONDITIONS TO AVOID

Avoid temperatures above 300°C.

SECTION 11 – Toxicological Information

TOXICITY :

LD50: N.E., LC50: N.E.

INGESTION, INHALATION, SKIN: Non-toxic

SKIN AND EYE IRRITATION: Prolonged contact with product can result in skin and eye irritation.

CHRONIC EFFECTS OF OVEREXPOSURE

NOT A KNOWN CARCINOGEN.

NTP: NO

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 not hazardous by OSHA Hazardous Communication Standard 29 CFR 1910.1200.
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