VICTREX

Print Document

Technical Information

Health and Safety Data Sheets for natural Victrex® PEEK™ polymer

THIS MATERIAL IS NOT FOR HUMAN IMPLANTATION

SECTION 1	**INGREDIENTS**
Polyetheretherketone	(CAS 29658-26-2)

Ingredients not precisely identified are proprietary or nonhazardous

SECTION 2	**PHYSICAL DATA**
Melting Point	334°C
Boiling Point	Not Applicable
pH:	Not Applicable
Specific Gravity	about 1.30%
% Volatile by volume	Negligible
Appearance and Odour	Grey-brown odourless thermoplastic solid

SECTION 3	**FIRE AND EXPLOSION DATA**
Crystalline melting point	334°C
Specific heat	0.32 cal/g°C
Thermal Conductivity	6 x 10 cal/sec cm² (°C/cm)
Heat of combustion	7000 cal/g
Flash ignition temperature	575°C
Self ignition temperature	595°C
Limiting oxygen index	35%
Thermogravimetric analysis in air	50% weight loss at 520°C
Thermogravimetric analysis in air	50% weight loss at 610°C
UL94	V-0 at 1,45 mm (0.057") thickness
Extinguishing media:	Water, fog, foam, carbon dioxide, dry chemical, halogenated agents
Special fire fighting protective equipment:	Self-contained breathing apparatus with full face piece and protective clothing
Unusual fire and explosion hazards:	Product will burn, but smoke emission is low. Dust is ignitable but requires a high-temperature source of ignition and is insensitive to sparks. The minimum spark energy required for ignition of a dust cloud is greater than 5000mj. It will not

train fire, eg along beams etc

* - Test data based on unfilled Polymer (450G)

SECTION 4	**REACTIVITY DATA**
Stability	Stable under normal conditions
Incompatibility (materials to avoid)	Dissolved by concentrated sulphuric acid
Hazardous decomposition products (gases)	Carbon Dioxide/Carbon Monoxide
Hazardous polymerisation	Will not occur

SECTION 5	**HEALTH HAZARD ASSESSMENT**
General	No toxicity information is available on this specific preparation; this material is reported to be inert under normal conditions
Ingestion	Non harmful if swallowed
Eye contact	No irritation is likely as a result of contact with this material
Skin contact	No irritation is likely to develop following contact with human skin
Skin absorption	This product is not likely to be absorbed through human skin
Inhalation	No toxic effects are known to be associated with inhalation of dust from this material, however, mechanical irritation of upper respiratory passages may occur. Careless handling of fine powders can create dust clouds which may be inhaled, as with all powders care must be taken when handling
Other effects of overexposure	No other adverse clinical effects are known to be associated with exposures to this material

SECTION 6	**FIRST AID PROCEDURES**
Skin	Wash material off the skin with plenty of soap and water. If redness, itching or a burning sensation develops, seek medical attention. for thermal burns, cool quickly with water and get medical attention. Do not peel off solidified material
Eyes	Immediately flush with plenty of water for at least 15 minutes. If redness, itching or a burning sensation develops, have eyes examined and treated by medical personnel
Ingestion	Give one or two glasses of water to drink. If gastrointestinal symptoms develop, consult medical personnel. (Never give anything by mouth to an unconscious person)
Inhalation	Remove victim to fresh air. If cough or other respiratory symptoms develop, consult medical personnel

SECTION 7	**SPILL OR LEAK PROCEDURES**
Steps to be taken in case material is released or spilled	Wear skin respiratory and eye protection during clean-up. Sweep up and recover or mix material with moist absorbent and shovel into waste container
Disposal Method	Discarded product is not a hazardous waste under RCRA, 40 CFR 261
	Empty container retains product residue. Observe all precautions. Do not distribute, make available, furnish or

Container disposal	reuse empty container except for storage and shipment of original product. Remove all product residue and puncture of otherwise destroy empty container before disposal

SECTION 8	**SPECIAL PROTECTION INFORMATION**
TLV® or suggested control value	No TLV or OSHA PEL assigned to this resin. Minimise exposure in accordance with good hygiene practice
Ventilation	Provide local exhaust extraction during processing at temperatures above 330°C
Respiratory Protection	Use an approved face dust mask when handling powder grades
Protective Clothing	Impervious gloves and apron. Protect from thermal effects when handling molten material
Eye Protection	Safety glasses with side shields
Other Protective Equipment	Eyewash station in work area

SECTION 9	**SPECIAL PRECAUTIONS OR OTHER COMMENTS**
Precautions to be taken in handling or storing	Avoid breathing dusts. Molten polymer will adhere to the skin and cause severe burns. The interior of molten masses may remain hot for some time because of the low heat conductivity of the polymer. Use care when disposing of, or other handling, such masses.

SECTION 10	**MACHINE CLEANING (PURGING)**
	Purging with other polymers such as polyolefines at these high temperatures can be hazardous. At temperatures above 280°C polyethylene will emit decomposition fumes which contain carbon monoxide and irritants. Care should be taken in exposing polyethylene purgings to air at temperatures above 300°C as the auto-ignition temperature of polyethylene is 350°C. Reference should be made to the instructions detailed in the Victrex® PEEK™ processing information before purging is attempted. Aluminium oxide fluid bed cleaning baths at 500-600°C have been found to be very effective in removing Victrex® PEEK™ polymer. Good ventilation is required.

SECTION 11	**REGULATION INFORMATION**
TSCA (Toxic Substances Control Act) Regulations, 40 CFR 710	All ingredients are on the TSCA Chemical Substance Inventory
CEPA (Canadian Environmental Protection Act)	Polyetheretherketone is on the Non-Domestic Substances List
CERCLA and SARA Regulations (40 CFR 355, 370 and 372)	This product does not contain any chemicals subject to the reporting requirements of SARA Section 313.
Other Determined Regulations	California Proposition 65:Contains no listed ingredients

Health and Safety Executive (UK) — Occupational Exposure Limits. Guidance Note EH 40/89.

Further Information

Information on the properties, processing and application of 'Victrex' polymers is contained in a series of publications available from Victrex plc.

Information contained in this leaflet (and otherwise supplied to users) is based on our general experience and is given in good faith, but we are unable to accept responsibility in respect of factors outside our knowledge or control. Freedom under patents, copyright and registered designs cannot be assured.

NB This is a general health and Safety sheet for unfilled natural polymer. For compounded Victrex® PEEK™ polymer products or specific grades of Victrex® PEEK™ polymer, the Health and Safety information may vary.

Please request specific Health and Safety information prior to using or processing and Victrex® PEEK™ polymer product.

* Test data based on unfilled polymer (450G)