MATERIAL SAFETY DATA SHEET

Jin Heung Industrial Co. Ltd,
506-4, Paltan Myun Yulam Ri,
Hwasung Shi, Kyunggi Do
Korea
Emergency Tel. No.
031-352-7751
Data Issued : Nov 9, 1992

HAZARD RATING

4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

PRODUCT IDENTIFICATION

PRODUCT NAME	:	TPU
CHEMICAL NAME	:	Complex mixture
MOLECULAR FORMULA	:	Mixture
SYNONYMS	:	Polyurethane Resin
CHEMICAL FAMILY	:	Polyester Polyurethane and alkyl diol

HAZARDOUS INGREDIENTS

COMPONENTS :
This product contains the following toxic chemical subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To- Know Act of 1986 and of 40 CFR 372 :

Polyester Polyurethane * : CAS Reg. No. Not Established, Less than 90%, TLV-TWA Not known
1,4-Butanediol : CAS Reg. No. 110-63-4, less than 15%, LD 50 oral-rat 1,500 mg/kg.

* The chemical name of this polymer is protected as a trade secret. To the best of our knowledge, the toxicity of this polymer has not been thoroughly studied.

PHYSICAL PROPERTIES

BOILING POINT : Not applicable
SPECIFIC GRAVITY : 1.200/25℃
SOLUBILITY IN WATER : Insoluble
PERCENT VOLATILE : Zero

SOFTENING POINT : 95℃
VAPOR PRESSURE : Negligible
pH (1 : 10 in water) : Neutral

APPEARANCE AND ODOR : Colorless beads with no apparent odor.

FIRE AND EXPLOSION DATA

FLASH POINT : Non combustible.
FLAMMABLE LIMITS : Not applicable.
EXTINGUISHING MEDIA : Water fog or water spray
SPECIAL FIRE FIGHTING PROCEDURE : Water may be used to keep fire-exposed containers cool until fire is out.
UNUSUAL FIRE AND EXPLOSION HAZARDS : No explosion hazards.

HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE :
Not established. See page 1 for individual components.
EFFECT OF OVEREXPOSURE :
May be harmful by ingestion, causes eye and skin irritation.
Material is irritating to mucous membranes and upper respiratory tract.
To the best of our knowledge, the chemical, physical and toxological properties have not been thoroughly investigated.
EMERGENCY AND FIRST AID PROCEDURE :
In case of contact, immediately flush eye with copious amounts of water for at least 15 minutes. If inhaled, remove to fresh air.
If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
If swallowed, wash out mouth with water provided person is conscious.
Call a physician.
CHRONIC EFFECT OF OVEREXPOSURE :
None known currently.

REACTIVITY DATA

STABILITY : Stable at ordinary condition.
INCOMPATIBILITY / AVOID CONTACT WITH : Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS : Carbon dioxide and / or monoxide
HAZARDOUS POLYMERIZATION : Will not occur.
CONDITION TO AVOID : None

SPILL OR LEAK PROCEDURE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED :
Recover large spills for disposal. Carefully sweep up small spills and transfer to suitable container for disposal. Avoid creating dusty atmosphere.
Disposal should be carried out in compliance with federal, state and local regulations regarding health, air and water pollution. Contact authorities in the event of large spills.

WASTE DISPOSAL METHOD :
Usual disposal method for floor wiping and trash.
Any disposal must comply with local, state and federal regulation.

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) :
No respiratory protection required under ordinary conditions.

VENTILATION LOCAL EXHAUST : No special requirements.
MECHANICAL (GENERAL) : Acceptable.
SPECIAL : None

PROTECTIVE GLOVES : Normally not needed.

EYE PROTECTION : Normally not needed.

SPECIAL PRECAUTIONS

OTHER PROTECTIVE EQUIPMENT :
None required for small amount handling.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE :
Store in closed containers. Avoid prolonged periods of storage at high temperatures.

OTHER PRECAUTIONS : Avoid contact of foods.

REQUIREMENTS FOR TRANSPORTATION

PROPER SHIPPING NAME : Polyurethane Resin
Chemicals, NOS (Non-regulated).

HAZARDOUS CLASSIFICATION : Not DOT regulated.

IDENTIFICATION NUMBER : JTC 1003

IMCO CLASS (INTERNATIONAL TRAVEL) : Chemicals, N. O. S. (Non-regulated).

ADDITIONAL LABELING : None.

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Chemtest Laboratories Inc.
101 Midland Avenue,
Elmwood Park, NJ 07407
(201) 797-2770