

MATERIAL SAFETY DATA SHEET

MSDS No. : 03-0450-01

1. PRODUCT AND COMPANY IDENTIFICATION

● PRODUCT

PRODUCT NAME : I U P I L O N
GRADE : S - 2 0 0 1 R

● COMPANY IDENTIFICATION

SUPPLIER : MITSUBISHI ENGINEERING-PLASTICS CORP.
ADDRESS : YAESU-DAIBIRU BUILDING 1-1 Kyobashi 1-chome, Chuo-ku, Tokyo
104-0031, Japan
DEPARTMENT : Environment and Quality Assurance Department
TELEPHONE No. : 81-3-3278-5818
FAX No. : 81-3-3278-5827
DATE : 2004.12.14
PREPARED BY : Shinya Miya

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME : Polycarbonate based on bisphenol A
COMPOSITION : MORE THAN 99wt%
CHEMICAL FORMULA : $[-O-C_6H_4-C(CH_3)_2-C_6H_4-O-CO-]_n-$
CAS REGISTRY No. : 25971-63-5

3. HAZARDS IDENTIFICATION

Hazard warning is not required.

4. FIRST-AID MEASURES

EYE CONTACT :

Flush the eyes with plenty of water without rubbing the eyes with hands.
Get medical attention if irritation persists.

SKIN CONTACT :

Wash contaminated skin with soap and water after contact with processing vapors and fumes. Immediately cool contaminated skin with water and get medical attention after contact with molten resin.

INHALATION :

If fumes are inhaled, remove person to fresh air. If breathing is difficult, get medical attention.

INGESTION :

This product does not show significant acute toxicity.
Get medical attention if considerable amounts of this product are ingested.

5. FIRE-FIGHTING MEASURES

SPECIAL FIREFIGHTING PROCEDURES :

This product is a combustible thermoplastic material which will melt and drip when ignited and gives off combustion product mainly consisting of carbon dioxide carbon monoxide. Formation of traces of aliphatic and aromatic hydrocarbons, aldehydes, acids, phenol and phenol derivatives may occur.

Fire-men have to wear self-containing breathing apparatus.

EXTINGUISHING MEDIA :

Water spray or other Class A extinguishing agent.

6. ACCIDENTAL RELEASE MEASURES

This product is a non-hazardous solid in pellet form which can be easily controlled in case of spill or leakage. Collect and put those pellets in proper containers for disposal or recovery.

7. HANDLING AND STORAGE

HANDLING :

Avoid breathing processing fumes and vapors.
Processing fumes and vapors may cause eye, skin and respiratory tract irritation, and in case of overexposure, nausea and headache.
Clean dust from cutting and sanding operation to prevent its accumulation, since it may cause spark due to statics electricity or dust explosion.
Properly ground air transportation lines including hoppers, bad filters to prevent accumulation of static electricity.

STORAGE :

Store this product in place not subject to direct sunlight or elevated temperatures or where there are no ignition sources.
Take measures to prevent an accident due to static electricity from occurring.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

AIRBORNE EXPOSURE LIMITS

This Product ; OSHA PEL : none established
ACGIH TLV : none established

ENGINEERING MEASURES : Provide sufficient ventilation to control exposure levels below airborne exposure limits (see above) .
If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.
Consult NFPA standard 91 for design of exhaust system.

PERSONAL PROTECTIONS :

RESPIRATORY PROTECTION ; Avoid breathing dust, vapors or fumes.
Use NIOSH/OSHA approved respiratory protection equipment (full facepiece recommended) when airborne exposure limits (see above) are exceeded.
Consult respirator manufacturer to determine appropriate type equipment for given application.
Observe respirator use limitations specified by

NIOSH/OSHA

or the manufacturer.

EYE PROTECTION ; This product does not cause significant eye irritation or eye toxicity requiring special protection, except when in molten state.
Use good industrial practice to avoid eye contact. Processing of this product releases vapors or fumes which may cause eye irritation.
Where there is significant potential for eye contact, wear appropriate eye protection and have eye flushing equipment available.

SKIN PROTECTION ; This product does not present a significant skin concern requiring special protection at room temperature.
Minimize skin contamination by following good industrial hygiene practice. Processing of this product releases vapors or fumes which may cause skin irritation. Wash hands and contaminated skin thoroughly after contact with processing vapors or fumes.
Wear rubber glove when handling molten resin.

DUST CLEANING ; Processing fume condensates may be a fire hazard and toxic ; clean periodically exhaust hoods, duct work and other surfaces using appropriate protection equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : Pellet
BOILING POINT : Not applicable
FLASH POINT : > 520°C
IGNITION POINT : > 550°C
VAPOR PRESSURE : Not applicable
MELTING POINT : Not applicable
SPECIFIC GRAVITY : 1.2
OXIDIZIBILITY : None under normal handling conditions
FLAMMABILITY : Combustible
EXPLOSION LIMIT : Not applicable
SOLUBILITY IN WATER : Unsoluble
ODOR : None

10. STABILITY & REACTIVITY

THERMAL DECOMPOSITION : Decomposition begins at 380°C.
REACTIVITY WITH WATER : None
SELF-REACTIVITY : None
CONDITIONS TO AVOID : In order to avoid hazardous decomposition of hot thick masses of plastics, purged plastics should be cut in small, flat, thin forms to allow rapid cooling. Do not allow molten resin to remain in barrel at elevated temperatures for extended period of time.
HAZARDOUS DECOMPOSITION PRODUCTS : Smoldering or incomplete combustion leads to the formation of toxic gas mixture such as carbon dioxide, carbon monoxide and traces of aliphatic and aromatic hydrocarbons, aldehydes, acids, phenol and phenol derivatives.
HAZARDOUS REACTIONS : No hazardous reaction observed.

11. TOXICOLOGICAL INFORMATION

SKIN CORROSIVITY :
None
IRRITATION :
None
ACUTE TOXICITY :
Not known
SUB-ACUTE TOXICITY :
Not known
CHRONIC TOXICITY :
Not known
CARCINOGENIC EFFECTS :
IARC group 3
(not classifiable as to its carcinogenicity to humans)
MUTAGENIC EFFECTS :
Not known

12. ECOLOGICAL INFORMATION

BIODEGRADABILITY : This product is not biodegradable.
BIOACCUMULATION : This product is not biodegradable.
FISH TOXICITY : Not known

13. DISPOSAL CONSIDERATIONS

Dispose of waste by incineration, sanitary landfill or other method in accordance with all applicable local, state and federal laws and regulation.
Consult your attorney or appropriate regulatory officials for information on such disposal.

14. TRANSPORT INFORMATION

UN No. : ----
DECLARATION FOR LAND SHIPMENT : ----
DECLARATION FOR SEE SHIPMENT : ----
DECLARATION FOR SHIPMENT BY AIR : ----
• OTHER INFORMATION : Not dangerous cargo. Keep dry

15. REGULATORY INFORMATION

• LABELLING ACCORDING TO EEC DERECTIVE : Not required.

In connection with dusts formed in consequence of mechanical treatment, e.g. grinding, the appropriate regulation/limit values for fine dusts must be observed : MAK value (fine dust) : 6 mg/m³

16. OTHER INFORMATION

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.