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## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name (chemical name, trade name, etc.): Methacrylic resin plate SHINKOLITE™

Manufacturer: Mitsubishi Rayon Co., Ltd.

Address: 6-41, Konan 1-chome, Minato-ku, Tokyo 108-8506, Japan

Department in charge: MMA Technology Administration Office

Telephone: 03-5495-3067

Fax: 03-5495-3189

Emergency contact number: Same as the department in charge

Reference number: AL-01

### 2. HAZARDS IDENTIFICATION

GHS classification: No classification

(This product is a “molded product” and does not correspond to the “chemical product” that requires issuance of MSDS.)

Other hazards not related to classification: None

### 3. COMPOSITION & INFORMATION ON INGREDIENTS

Single product or mixture: Single product (Molded product)

General name: Methacrylic resin plate

Component	Content	Official Gazette Reference No.	CAS No.
Methacrylic resin	98% or more	(6)-524,(6)-553	9011-14-7 9011-87-4 25852-37-3
Methacrylic acid methyl	2% or less	(2)-1036	80-62-6

Industrial Safety and Health Act: Dangerous or Harmful Substances Subject to Be Notified their Names, etc. (Article 57-2, Enforcement Order 18-2 Appended Table 9) Methacrylic acid methyl (Cabinet Order No.: 557) (Less than 2%)

#### 4. FIRST AID MEASURES

Eye contact: For accidental eye contact with grinding swarf, refrain from rubbing the eye to prevent any damages to the eye and wash with clean water. Obtain medical attention by ophthalmologist if any foreign matter is remaining in the eye.

When swallowed: Although oral toxicity is low, vomit out as much as possible. Obtain medical attention if any abnormality is felt.

#### 5. FIRE-FIGHTING MEASURES

Fire fighting procedures: Fire fighting procedure similar to general fire is effective. Conduct fire fighting measures from the windward side or wearing breathing apparatus since hazardous gas (carbon monoxide, methacrylic acid methyl, etc.) may be generated.

Extinguishing media: Water, foam extinguisher, powder extinguisher and carbon dioxide extinguisher

#### 6. MEASURES IN LEAKAGE

Personal precaution: None

Environmental precaution: None

Procedures for removal: Collect

#### 7. CAUTIONS IN HANDLING AND STORAGE

Handling: (i) Be aware not to cut hand by the corner and side surface of the plate when carrying.

(ii) Be aware of accidents by static electricity since static electricity may be generated when the plate is rubbed or when peeling the protector paper.

(iii) Use safety cover, protective equipment, etc. to prevent eye contact and inhaling of grinding swarf during machining and other procedures.

(iv) Although it will not self ignite in normal temperature, do not expose to fire since it is flammable.

Storage: Store at a location away from heat and ignition source and an area not exposed to sunlight.

Store at a location where there is no water leakage and the humidity is low.

#### 8. EXPOSURE PREVENTION AND PROTECTION MEASURES

Facilities: Appropriate local exhauster is necessary when dust is generated by machining and other procedures.

Control concentration: Not established.

Allowable concentration: Although both Japan Society for Occupational Health and ACGIH (American Conference of Governmental Industrial Hygienists) do not stipulate allowable concentration for dust, the values below are considered adequate to be applied.

	Average value of time load	
	Inhalable dust	Total dust
Japan Society for Occupational Health Recommended Levels (2005) Third-class dust	2mg/m <sup>3</sup>	8mg/m <sup>3</sup>
ACGIH Recommended Levels (2005) General dust (Nuisance Dust)	3mg/m <sup>3</sup>	10mg/m <sup>3</sup>

Protective equipment: Wear nonslip protection gloves, etc. when carrying a large plate.

Wear dust respirator to avoid inhaling of dust.

Wear safety glasses to avoid eye contact to dust.

## 9. PHYSICAL & CHEMICAL PROPERTIES

Outward appearance: Plate shape

Color: Standard color is clear

Odor: None

Specific gravity: 1.19

Melting point: Clear melting point does not exist. Gradually becomes malleable at a variable temperature of approx. 100°C or more

Solubility: Non-soluble in water

Flash point: None

Explosion characteristics: None

## 10. SAFETY AND DANGER

Ignition point: 400°C or more

Flammability: Flammable and burns when exposed to an ignition source.

Thermal degradability: Generates methyl methacrylate monomer when heated to approx. 300°C or more. Although the toxicity of the gas is low, it may irritate eye and respiratory system and cause unpleasant symptoms such as dizziness, nausea and headache.

Explosion limits: Not applicable

Safety and reactivity: Stable in normal temperature and normal pressure.

Hazardous reactivity in special conditions: None

## 11. TOXICOLOGICAL INFORMATION (Cases to human including epidemiological information)

Biologically inactive and normally has no effect to living organisms.

Acute toxicity: None

Local effects: None

## 12. ECOLOGICAL INFORMATION

No relevant studies identified (Considered non-biodegradable)

## 13. DISPOSAL

Incinerate or bury according to the laws and ordinances of the district.

Use incineration system in accordance with the laws when incinerating.

Combustion energy value of polymethylmethacrylate:  $2.62 \times 10^4$  kJ/kg

## 14. TRANSPORTATION INFORMATION

Avoid exposure to water and rough handling to prevent damage to the packaging material.

International regulations: Not applicable

Japan regulations: Not applicable

## 15. REGULATORY INFORMATION

Fire department regulations: Designated flammable material Synthetic resin (3,000 kg or more)

Chemical Substances Control Law: Class II Monitoring Chemical Substances (Methacrylic acid methyl)

Industrial Safety and Health Act: Dangerous or Harmful Substances Subject to Be Notified their Names, etc. (Article 57-2, Enforcement Order 18-2 Appended Table 9) (Methacrylic acid methyl)

PRTR: Not applicable

Poisonous and Deleterious Substances Control Law: Not applicable

Ship Safety Act: Not applicable

Law Relating to the Prevention of Marine Pollution and Maritime Disasters: Not applicable

Others

## 16. OTHER INFORMATION

This product is in a solid state (molded product, article) and is not a product required to issue MSDS.

However, this MSDS is created to provide information necessary for safe handling of the product.

Although this MSDS is created based on the latest materials, information and data available, the information given above is subject to revision when new discovery necessitates it. Furthermore, the safety information within this MSDS assumes normal usage. Special and unique usage of this product should be conducted according to appropriate safety measures adequate to the use and application method.

The purpose of the safety information within this MSDS is for the provision of information and does not provide any guarantee.