



SAFETY DATA SHEET

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TRAY RESIN & TRAY RESIN II
LIQUID
Printing date: June 5, 2018

SECTION 1. Identification of the substance or mixture and of the supplier

1.1 Product identifier

Trade Name:

TRAY RESIN & TRAY RESIN II "LIQUID"

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Dental material

Uses advised against: No further data

1.3 Details of the supplier of the safety data sheet

Company/Undertaking identification

Manufacturer's Name: **SHOFU INC.**

Address: 11 Kamitakamatsu-cho, Fukuine, Higashiyama-ku, Kyoto 605-0983, JAPAN

Phone: +81-75-561-1112

Fax: +81-75-275-4795

Section in Charge: Quality Assurance Section

1.4 Emergency Telephone Number

+81-75-561-1112

SECTION 2. Hazards identification

2.1 GHS Classification

PHYSICAL HAZARDS

FLAMMABLE LIQUIDS

Category 2

HEALTH HAZARDS

ACUTE TOXICITY-INHALATION (VAPOURS)

Category 4

ACUTE TOXICITY-INHALATION (DUSTS and MISTS)

Category 4

SKIN CORROSION/IRRITATION

Category 2

EYE DAMAGE/IRRITATION

Category 2A

SENSITIZATION-RESPIRATORY

Category 1

SENSITIZATION-SKIN

Category 1

TOXIC TO REPRODUCTION

Category 2

SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE)

Category 3 (respiratory tract irritation, narcotic effects)

SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (REPEATED EXPOSURE)

Category 1 (central nervous system, respiratory organ)

ENVIRONMENTAL HAZARD

HAZARDOUS TO THE AQUATIC ENVIRONMENT-ACUTE HAZARD

Category 3

The thing without mention is out of a classification object. Or cannot classify it.



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2.2 Label elements

SYMBOL:



GHS02 GHS07 GHS08

HAZARD-DETERMINING COMPONENTS OF LABELLING

Methyl Methacrylate

SIGNAL WORD: Danger

HAZARD STATEMENTS

- Highly flammable liquid and vapor.
- Causes skin irritation.
- May cause allergic skin reaction.
- Causes serious eye irritation.
- Harmful if inhaled.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause respiratory irritation.
- May cause drowsiness or dizziness.
- Suspected of damaging fertility or the unborn child.
- Causes damage to organs through prolonged or repeated exposure. (central nervous system, respiratory organ)
- Harmful to aquatic life.

PRECAUTIONARY STATEMENTS

[Prevention]

- Do not handle until all safety precautions have been read and understood.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep container tightly closed.
- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

- IF ON SKIN: Wash with plenty of water and soap.
- If skin irritation occurs: Get medical advice/attention.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- Get medical advice/attention if you feel unwell.



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[Storage]

Store in a cool and dark area.

[Disposal]

Dispose of contents and container in accordance with regulation.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3. Composition/information on ingredients

3.1 Chemical characterization: Mixtures

3.2 Description: -

3.3 Dangerous components:

Methyl Methacrylate [Cas.No.80-62-6] 90-95 %

N,N-Dimethyl-P-Toluidine [Cas No.99-97-8]

Polyethylen glychol [Cas.25322-68-3],

Others

3.4 Additional information: For the wording of the listed risk phrases refer to section 2

SECTION 4. First-aid measures

4.1 Description of first aid measures

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present. and easy to do. If eye irritation persists, get medical advice/attention.

Skin contact: Wash immediately with soap and plenty of water. If on skin, skin irritation, get medical advice/attention.

Ingestion: Rinse mouth and seek medical advice if necessary.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptom concerning breath goes out, call a POISON CENTER or doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5. Fire-fighting measures

5.1 Extinguishing Media:

Foam, CO₂, Powder, Dry sand

5.2 Special hazards arising from the substance or mixture:

Easily flammable liquid in room temp.

Fire may produce irritating, corrosive and/or toxic gases.

5.3 Advice for firefighters:

Wear fire protective cloth and self-contained breathing apparatus, if necessary.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid contact with eyes and skin.



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- 6.2 Environmental Precautions:
Send to approved treatment/disposal company or dispose according to local, state and federal regulations.
- 6.3 Methods and material for containment and cleaning Up:
Wipe up and discard in a stable container.
- 6.4 Reference to other section:
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7. Handling and storage

- 7.1 Precautions for safe handling:
Handle in a well ventilated place.
Keep away from open flames, sparks and sources of heat. No smoking.
- 7.2 Conditions for safe storage, including any incompatibilities:
Store in a well ventilated dark area, keep away from ignition sources.
- 7.3 Specific end use(s):
No further relevant information available.

SECTION 8. Exposure controls/personal protection

- 8.1 Control parameters:
Exposure limits:
Methyl Methacrylate; ACGIH
50 ppm TWA
100 ppm STEL
- 8.2 Exposure controls:
Respiratory Protection:
Dust mask
- Skin Protection: Hand Protection
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
- Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
 - Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.



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· For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:
Butyl rubber, BR
Nitrile rubber, NBR

Eye Protection: Safety goggles

SECTION 9. Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
- | | |
|--|---|
| Appearance/Odor/Colour: | Red color liquid with perceptible sweet odor. |
| Odour threshold | Not determined. |
| pH | Not determined. |
| Melting point/freezing point | Not determined. |
| Boiling Point: | ≈ 100 °C |
| Flash point: | 10.8 °C (closed) |
| Evaporation rate | Not determined. |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | Not determined. |
| Vapour pressure | Not determined. |
| Vapour density | Not determined. |
| Relative Density: | ≈ 0.96 (water=1) |
| Solubility: water solubility | Insoluble |
| Partition coefficient: n-octanol/water | Not determined. |
| Auto-ignition temperature | ≈ 420 °C |
| Decomposition temperature | Not determined. |
| Viscosity | Not determined. |
| Explosive properties | Not applicable. |
| Oxidising properties | Not applicable. |
- 9.2 Other information
No further relevant information available.

SECTION 10. Stability and reactivity

- 10.1 Reactivity:
Very flammable liquid and the vapor mixed with air generate explosive gas. Polymerization reaction generate large quantity heat and quick reaction may cause explosion.
- 10.2 Chemical stability:
Stable under normal temperatures and pressures.
- 10.3 Possibility of hazardous reactions:
No dangerous reactions known.
- 10.4 Condition to Avoid:
Sunlight, Heating, High temperature.
- 10.5 Incompatible materials:
Acid, Alkali, Oxidation-related material.
- 10.6 Hazardous Decomposition Products:
None under normal conditions of storage and use.



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SECTION 11. Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:	Acute Tox. 4; H332 Harmful if inhaled. Methyl Methacrylate;
	Oral rat LD50 7900 mg/kg
	Dermal rabbit LD50 > 5000 mg/kg
	Inhalation rat LC50 7093 ppm/4H(Vapor)
Skin corrosion/irritation:	Skin Irrit. 2 ; H315 Causes skin irritation.
Eye damage/irritation:	Eye Irrit. 2A; H319 Causes serious eye irritation.
Sensitization to the respiratory tract:	Resp. Sens. 1; H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization:	Skin Sens. 1; H317 May cause an allergic skin reaction.
Germ cell mutagenicity/Genotoxicity:	Based on available data, the classification criteria are not met.
Carcinogenicity:	Methyl Methacrylate; Classified by IARC as group 3, ACGIH as group A4 EPA class E
Reproductive toxicity:	Repr.2; H361 Suspected of damaging fertility or the unborn child.
Effects on or via lactation:	Lack of data.
Specific target organ toxicity (single exposure):	STOT SE 3; H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure):	STOT RE 1; H372 Causes damage to organs through prolonged or repeated exposure. (central nervous system, respiratory organ)
Aspiration hazard:	Based on available data, the classification criteria are not met.

SECTION 12. Ecological information

12.1 Toxicity:

Methyl Methacrylate:

Organism Toxicity :

For Daphnia magna acute toxicity EC50/48hr 69mg/L..

Persistence/degradability :

Readily biodegradable. Degradability by BOD is 94.4%.

Bioaccumulation :

Bioaccumulation is not expected to be significant. Log Kow=1.38.

12.2 Persistence and degradability:

No further relevant information available.

12.3 Bioaccumulative potential:

No further relevant information available.

12.4 Mobility in soil:

No further relevant information available.

12.5 Results of PBT and vPvB assessment:

Not applicable.



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12.6 Other adverse effects:
No further relevant information available.

SECTION 13. Disposal considerations

13.1 Waste treatment methods:
Dispose of contents/container to in accordance with local/regional/national/international regulations.

SECTION 14. Transport information

14.1 UN number: 1247
14.2 UN proper shipping name: Methyl methacrylate monomer, stabilized
14.3 Transport hazard class(es): 3 Flammable liquids
14.4 Packing group: II
14.5 Environmental hazards: No further relevant information available.
14.6 Special precautions for user: Warning: Flammable liquids.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
Not applicable.

SECTION 15. Regulatory informati

Follow all regulations in your country.

SECTION 16. Other information

This product is intended for use by dental professionals. (instrument/material)

NFPA ratings for USA (scale 0-4)

Methyl Methacrylate;



Health = 2
Fire = 3
Reactivity = 2

HMIS-Ratings (Scale 0-4)

Methyl Methacrylate;

Health Hazard	2
Fire Hazard	3
Reactivity	2

Health = 2
Fire = 3
Reactivity = 2

Relevant phrases:

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



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- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H361 Suspected of damaging fertility or the unborn child.
- H372 Causes damage to organs through prolonged or repeated exposure. (central nervous system, respiratory organ)
- H402 Harmful to aquatic life.

Abbreviations and acronyms:

- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative