

Issuing Date No data available

Revision Date 20-Jul-2018

Revision Number 3

Japan / English

1. PRODUCT AND COMPANY IDENTIFICATION**Product identifier**

Product Name TransOptic
Product Code(s) 20-3400-080
(M)SDS Number 1339940_J

Other means of identification

Synonyms No information available
Registration Number(s) No information available

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory Use Only
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Buehler
Manufacturer Address Loop-X 6th Floor 3-9-15
kaigan Minato-ku, Tokoyo 108-0022
www.buehler.com/Japan
Phone number +81 (0)3 5439 5077
E-mail Address info.japan@buehler.com

Emergency telephone number

Global Access Code: 334545
Asia Pacific: +1 760 476 3960 Americas: +1 760 476 3962
Middle East/Africa: +1 760 476 3959 Europe: +1 760 476 3961
Japan: +81 36 8908677

2. HAZARDS IDENTIFICATION**GHS Classification**

| | |
|--|---|
| Respiratory sensitization | Category 1 |
| Skin sensitization | Category 1 |
| Specific target organ toxicity (repeated exposure) | Category 2 Central nervous system, Respiratory system. |

Label elements**Signal word****Danger****Hazard statements**

H317 - May cause an allergic skin reaction

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H373 - May cause damage to the following organs through prolonged or repeated exposure: Central nervous system, Respiratory system.

Precautionary Statements - Prevention

In case of inadequate ventilation wear respiratory protection

Wear protective gloves

Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

Get medical advice/attention if you feel unwell

IF ON SKIN: Wash with plenty of soap and water

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 or doctor/physician

Precautionary Statements - Storage

Not applicable

Precautionary Statements - Disposal

Not applicable

Other hazards

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

| Chemical name | Weight-% | ENCS - Japan Existing and New Chemical Substances | ISHL No. | CAS-No |
|----------------------------|----------|---|--------------------------|-----------|
| Poly (methyl methacrylate) | > 99% | No information available | No information available | 9011-14-7 |
| Methyl Methacrylate | < 1% | (2)-1036 | Present | 80-62-6 |

Pollutant Release and Transfer Registry (PRTR)

Not applicable.

| Chemical name | Weight-% | Class | Cabinet order number | Relevant substance, conversion factor |
|--------------------------------|----------|---------------------------------------|----------------------|---------------------------------------|
| Methyl Methacrylate 80-62-6 | < 1% | Class I designated chemical substance | 1-420 | |

Industrial Safety and Health Law

ISHL Notifiable Substances - information (safety data sheet) to be supplied; Industrial Safety and Health Law enforcement order Table 9 (related to Industrial Safety and Health Law article 57-2 and ISHL Ordinance Article 34-2-4)

| Chemical name | ISHL Notifiable Substances | Threshold Values (%) |
|--------------------------------|----------------------------|----------------------|
| Methyl Methacrylate 80-62-6 | ISHL Notifiable Substances | 0.1 |

Poisonous and Deleterious Substances Control Law Not applicable

4. FIRST AID MEASURES

First aid measures

| | |
|---|--|
| General advice | Show this safety data sheet to the doctor in attendance. |
| Inhalation | May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Skin contact | Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. |
| Ingestion | May produce an allergic reaction. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention. |
| Symptoms | May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. |
| Self-protection of the first aider | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information. |
| Note to physicians | May cause sensitization in susceptible persons. Treat symptomatically. |

5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| Flammable Properties | Not flammable. |
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | No information available. |
| Specific hazards arising from the chemical | Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact. May cause sensitization by skin contact. |
| Special Extinguishing Media | Cool drums with water spray. |
| Special protective equipment for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

6. ACCIDENTAL RELEASE MEASURES

| | |
|-----------------------------|--|
| Personal precautions | Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal |
|-----------------------------|--|

| | |
|--|---|
| | protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| Other Information | Refer to protective measures listed in Sections 7 and 8. |
| For emergency responders | Use personal protection recommended in Section 8. |
| Environmental precautions | Prevent further leakage or spillage if safe to do so. |
| Methods for containment | Prevent further leakage or spillage if safe to do so. |
| Methods for cleaning up | Pick up and transfer to properly labeled containers. |
| Prevention of secondary hazards | Clean contaminated objects and areas thoroughly observing environmental regulations. |
| Reference to other sections | See section 8 for more information. See section 13 for more information. |

7. HANDLING AND STORAGE

Handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse.

Storage

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure guidelines

| Chemical name | Japan | ISHL Working Environmental Evaluation Standards - Administrative Control Levels | ACGIH TLV |
|--------------------------------|--|---|------------------------------|
| Methyl Methacrylate 80-62-6 | TWA: 2 ppm TWA: 8.3 mg/m ³ | - | STEL: 100 ppm TWA: 50 ppm |

Biological occupational exposure limits Not applicable

Engineering controls Showers
Eyewash stations
Ventilation systems.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear suitable protective clothing.

Hand protection Wear suitable gloves.

| | |
|--|--|
| Respiratory protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| Environmental exposure controls | No information available. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

| | |
|-----------------------|--------------------------|
| Physical state | Pellets |
| Appearance | White |
| Odor | Characteristic |
| Color | No information available |
| Odor Threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks</u> | <u>Method</u> |
|--|--------------------------|----------------|---------------|
| pH | No data available | None known | |
| Melting / freezing point | 150-230°C | None known | |
| Boiling point / boiling range | No data available | None known | |
| Flash Point | No data available | None known | |
| Evaporation Rate | No data available | None known | |
| Flammability (solid, gas) | No data available | None known | |
| Flammability Limit in Air | | None known | |
| Upper flammability limit | No data available | | |
| Lower flammability limit | No data available | | |
| Vapor pressure | No data available | None known | |
| Vapor density | No data available | None known | |
| Relative density | 1.18 | None known | |
| Water Solubility | Negligible | | |
| Solubility(ies) | No data available | None known | |
| Partition coefficient: n-octanol/water | No data available | None known | |
| Autoignition temperature | No data available | None known | |
| Decomposition temperature | No data available | None known | |
| Kinematic viscosity | No data available | None known | |
| Viscosity | No data available | None known | |
| Explosive properties | No information available | | |
| Oxidizing properties | No information available | | |

Other Information

| | |
|-----------------------------------|--------------------------|
| Softening Point | No information available |
| Molecular Weight | No information available |
| VOC Content (%) | Not applicable |
| Liquid Density | No information available |
| Bulk Density | No information available |
| Particle Size | No information available |
| Particle Size Distribution | No information available |

10. STABILITY AND REACTIVITY

| | |
|---|---------------------------------|
| Reactivity | No information available. |
| Stability | Stable under normal conditions. |
| Explosion Data | |
| Sensitivity to Mechanical Impact | None |
| Sensitivity to Static Discharge | None |
| Possibility of hazardous reactions | None under normal processing. |

Incompatible materials None known based on information supplied.

Hazardous Decomposition Products None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information

| | |
|---------------------|--|
| Inhalation | Specific test data for the substance or mixture is not available. May cause sensitization in susceptible persons. (based on components). |
| Eye contact | Specific test data for the substance or mixture is not available. |
| Skin contact | Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitization by skin contact. Causes mild skin irritation. |
| Ingestion | Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation". |

Symptoms Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (inhalation-vapor) 33.19 mg/L

Unknown acute toxicity

- 98.25 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 98.25 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 99.25 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 98.25 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 99.25 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Numerical measures of toxicity - Component Information

| Chemical name | LD50 Oral | LD50 Dermal | Inhalation LC50 |
|--------------------------------|--|---------------------|------------------------|
| Methyl Methacrylate 80-62-6 | = 7900 mg/kg (Rat) = 7872 mg/kg (Rat) | > 5 g/kg (Rabbit) | = 4632 ppm (Rat) 4 h |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|---|
| Skin corrosion/irritation | No information available. |
| Serious eye damage/eye irritation | No information available. |
| Respiratory or skin sensitization | May cause sensitization by inhalation. May cause sensitization by skin contact. |
| Germ cell mutagenicity | No information available. |

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | Carcinogenicity | IARC |
|----------------------------|-----------------|---------|
| Poly (methyl methacrylate) | | Group 3 |

| | | |
|--------------------------------|--|---------|
| 9011-14-7 | | |
| Methyl Methacrylate 80-62-6 | | Group 3 |

Legend:

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

| | |
|---------------------------------|---------------------------------|
| STOT - single exposure | No information available. |
| STOT - repeated exposure | May cause damage to organs. |
| Target Organ Effects | Skin. Eyes. Respiratory system. |
| Aspiration hazard | No information available. |

12. ECOLOGICAL INFORMATION

Ecotoxicity

Percentage for unknown hazards 98.25 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Ecotoxicity

| Chemical name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|---------------------|--|--|----------------------------|----------------------------|
| Methyl Methacrylate | 96h EC50: = 170 mg/L (Pseudokirchneriella subcapitata) | 96h LC50: 243 - 275 mg/L (Pimephales promelas) 96h LC50: 125.5 - 190.7 mg/L (Pimephales promelas) 96h LC50: 153.9 - 341.8 mg/L (Lepomis macrochirus) 96h LC50: > 79 mg/L (Oncorhynchus mykiss) 96h LC50: 170 - 206 mg/L (Lepomis macrochirus) 96h LC50: 326.4 - 426.9 mg/L (Poecilia reticulata) | - | 48h EC50: = 69 mg/L |

Persistence and Degradability No information available.

Bioaccumulation**Component Information**

| Chemical name | Log Pow |
|---------------------|---------|
| Methyl Methacrylate | 0.7 |

| | |
|------------------------------|---------------------------|
| Mobility in soil | No information available. |
| Mobility | No information available. |
| Other adverse effects | No information available. |

13. DISPOSAL CONSIDERATIONS

| | |
|--|---|
| Waste from residues/unused products | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| Contaminated packaging | Do not reuse empty containers. |

14. TRANSPORT INFORMATION

| | |
|-----------------------------|---------------|
| IMDG | NOT REGULATED |
| ADR | NOT REGULATED |
| IATA | NOT REGULATED |
| Proper Shipping Name | NON REGULATED |
| Japan | |
| Hazard Class | N/A |

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

National Regulations

Japan

Pollutant Release and Transfer Registry (PRTR)

See section 3 for more information

Industrial Safety and Health Law

Harmful Substances Whose Names Are to be Indicated on the Label

Harmful Substances - names to be indicated on the label; Industrial Safety and Health Law enforcement order Table 9 (related to Industrial Safety and Health Law article 57 and ISHL Ordinance Article 33)

ISHL Notifiable Substances

ISHL Notifiable Substances - information (safety data sheet) to be supplied; Industrial Safety and Health Law enforcement order Table 9 (related to Industrial Safety and Health Law article 57-2 and ISHL Ordinance Article 34-2-4)

Fire Service Law:

Not applicable

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)

Not applicable

Labor Standards Act

Occupational illnesses caused by chemical substances - Labor Standards Act article 75, Enforcement Ordinance article 35 and Notification Designating Elements and Compounds of Chemical Substances and Occupational Illnesses Table 1-2 item 4-1

Air Pollution Control Law

Air pollutants with regulated emissions standards, Air Pollution Control Act article 3

Volatile organic compound per Air Pollution Control Law article 2, paragraph 4

Hazardous air pollutants (HAPs) per Air Pollution Control Law article 2, paragraph 1, item 3 and Enforcement Order article 1

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

International Inventories

| | |
|----------------------|---|
| TSCA | Contact supplier for inventory compliance status. |
| DSL/NDSL | Contact supplier for inventory compliance status. |
| EINECS/ELINCS | Contact supplier for inventory compliance status. |
| ENCS | Contact supplier for inventory compliance status. |
| KECL | Contact supplier for inventory compliance status. |
| PICCS | Contact supplier for inventory compliance status. |
| AICS | Contact supplier for inventory compliance status. |

Legend**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances

| |
|------------------------------|
| 16. OTHER INFORMATION |
|------------------------------|

| | |
|----------------------|--|
| Prepared By | Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501 |
| Issuing Date | 01-Mar-2017 |
| Revision Date | 20-Jul-2018 |
| Revision Note | No information available |

Key or legend to abbreviations and acronyms used in the safety data sheet**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | - | Skin designation |
| C | Carcinogen | | |

Disclaimer

This SDS complies with the requirements of JIS Z 7250:2010 and JIS Z 7252:2009 (Japan). The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publically available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

End of Safety Data Sheet