1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product Name: VariDur 10 Powder
Product Code(s): 10-1027, 11-1031
(M)SDS Number: 1344864_J

Other means of identification
Synonyms: No information available
Registration Number: 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, Tokyo 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
Middle East/Africa: +1 760 476 3959
Japan: +81 36 8908677
Americas: +1 760 476 3962
Europe: +1 760 476 3961

2. HAZARDS IDENTIFICATION

GHS Classification

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive toxicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Acute aquatic toxicity</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Label elements
Signal word

Danger

Hazard statements

H360 - May damage fertility or the unborn child
H402 - Harmful to aquatic life

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Avoid release to the environment

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other hazards
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Not applicable

Mixture

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Weight-%</th>
<th>Inventory - Japan - Existing and New Chemical Substances (ENCS)</th>
<th>ISHL No.</th>
<th>CAS No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymethyl methacrylate</td>
<td>90 - 100%</td>
<td>No information available</td>
<td>No information available</td>
<td>9011-14-7</td>
</tr>
<tr>
<td>Methyl methacrylate</td>
<td>0 - 1%</td>
<td>(2)-1036</td>
<td>No information available</td>
<td>80-62-6</td>
</tr>
<tr>
<td>Benzoyl peroxide</td>
<td>0 - 1%</td>
<td>(3)-1349</td>
<td>No information available</td>
<td>94-36-0</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, dicyclohexyl ester</td>
<td>0 - 1%</td>
<td>(3)-1311</td>
<td>No information available</td>
<td>84-61-7</td>
</tr>
</tbody>
</table>

Pollutant Release and Transfer Registry (PRTR)
Not applicable.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Weight-%</th>
<th>Class</th>
<th>Cabinet order number</th>
<th>Relevant substance, conversion factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl methacrylate</td>
<td>0 - 1%</td>
<td>Class I designated chemical substance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, dicyclohexyl ester</td>
<td>0 - 1%</td>
<td>Class II designated chemical substance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ISHL Notifiable Substances</th>
<th>Threshold Values (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl methacrylate</td>
<td>ISHL Notifiable Substances</td>
<td>0.1</td>
</tr>
<tr>
<td>80-62-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzoyl peroxide</td>
<td>ISHL Notifiable Substances</td>
<td>0.1</td>
</tr>
<tr>
<td>94-36-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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  Remove to fresh air.
Eye contact  Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact  Wash skin with soap and water.
Ingestion  Clean mouth with water and drink afterwards plenty of water.
Symptoms  No information available.
Note to physicians  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  No information available.
Hazardous Combustion Products  Carbon oxides.
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  Ensure adequate ventilation.
For emergency responders  Use personal protection recommended in Section 8.
Environmental precautions  See Section 12 for additional Ecological Information.
Methods for containment  Prevent further leakage or spillage if safe to do so.
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. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

Storage

Storage Conditions
Store locked up.

General hygiene considerations
Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Japan</th>
<th>ISHL Working Environmental Evaluation Standards - Administrative Control Levels</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl methacrylate</td>
<td>TWA: 2 ppm</td>
<td>-</td>
<td>STEL: 100 ppm</td>
</tr>
<tr>
<td>80-62-6</td>
<td>TWA: 8.3 mg/m³</td>
<td>-</td>
<td>TWA: 50 ppm</td>
</tr>
<tr>
<td>Benzoyl peroxide</td>
<td>-</td>
<td>-</td>
<td>TWA: 5 mg/m³</td>
</tr>
<tr>
<td>94-36-0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Biological occupational exposure limits
Not applicable

Engineering controls
Showers
Eyewash stations
Ventilation systems.

Personal Protective Equipment

Eye/face protection
No special protective equipment required.

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          Powder(s)
Appearance              Powder(s)
1344864 - VariDur 10 Powder  

Revision Date 17-Aug-2016

Odor Odorless
Color No information available
Odor Threshold No information available

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>110°C</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt;250°C</td>
<td>None known</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limit In Air</td>
<td></td>
<td>None known</td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Insoluble</td>
<td>None known</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td>None known</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
<td>None known</td>
</tr>
</tbody>
</table>

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.

Hazardous Polymerization Hazardous polymerization does not occur.

Incompatible materials None known based on information supplied.

Hazardous Decomposition Products Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information
Inhalation Specific test data for the substance or mixture is not available.
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.
Ingestion Specific test data for the substance or mixture is not available.

**Symptoms**
No information available.

**Numerical measures of toxicity - Product Information**

**Unknown acute toxicity**
- 98.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 98.5 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 98.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 98.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 98.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Numerical measures of toxicity - Component Information**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl methacrylate 80-62-6</td>
<td>= 7900 mg/kg (Rat) = 7872 mg/kg (Rat)</td>
<td>&gt; 5 g/kg (Rabbit)</td>
<td>= 4632 ppm (Rat) 4 h</td>
</tr>
<tr>
<td>Benzoyl peroxide 94-36-0</td>
<td>= 7710 mg/kg (Rat) = 6400 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, dicyclohexyl ester 84-61-7</td>
<td>= 30 mL/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**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**
  No information available.
- **Germ cell mutagenicity**
  No information available.
- **Carcinogenicity**
  No information available.

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>GHS-Carcinogenicity</th>
<th>IARC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl methacrylate 80-62-6</td>
<td></td>
<td>Group 3</td>
</tr>
<tr>
<td>Benzoyl peroxide 94-36-0</td>
<td></td>
<td>Group 3</td>
</tr>
</tbody>
</table>

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

**Reproductive toxicity**
Classification based on data available for ingredients. Contains a known or suspected reproductive toxin.

**STOT - single exposure**
No information available.
STOT - repeated exposure
No information available.

Target Organ Effects
Skin.

Aspiration hazard
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Percentage for unknown hazards
98.5 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Ecotoxicity
Harmful to aquatic life.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl methacrylate</td>
<td>96h EC50: = 170 mg/L (Pseudokirchneriella subcapitata)</td>
<td>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: &gt; 79 mg/L (Oncorhynchus mykiss) 96h LC50: &gt; 79 mg/L (Lepomis macrochirus) 96h LC50: 170 - 206 mg/L (Lepomis macrochirus) 96h LC50: 326.4 - 426.9 mg/L (Poecilia reticulata)</td>
<td>-</td>
<td>48h EC50: = 69 mg/L</td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available.

Bioaccumulation

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl methacrylate</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Mobility in soil
No information available.

Mobility
No information available.

Other adverse effects
No information available.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>EU - Endocrine Disrupters Candidate List</th>
<th>EU - Endocrine Disruptors - Evaluated Substances</th>
<th>Japan - Endocrine Disruptor Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Benzenedicarboxylic acid, dicyclohexyl ester</td>
<td>Group III Chemical</td>
<td>-</td>
<td>Industrial chemical</td>
</tr>
</tbody>
</table>

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/IMO
NOT REGULATED

ADR
NOT REGULATED

IATA
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)
Not applicable

Industrial Safety and Health Law

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:
Verify that requirements related to using, handling, and storing substances subject to prohibition, authorization or restriction are met

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Fire service law group</th>
<th>Hazardous material</th>
<th>Hazard rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl methacrylate 80-62-6</td>
<td>4</td>
<td>Flammable liquids</td>
<td>II</td>
</tr>
<tr>
<td>Benzoyl peroxide 94-36-0</td>
<td>5</td>
<td>Self-reactive substances and mixtures</td>
<td>I</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Contact supplier for inventory compliance status.</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Contact supplier for inventory compliance status.</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Contact supplier for inventory compliance status.</td>
</tr>
<tr>
<td>ENCS</td>
<td>Contact supplier for inventory compliance status.</td>
</tr>
<tr>
<td>KECL</td>
<td>Contact supplier for inventory compliance status.</td>
</tr>
<tr>
<td>PICCS</td>
<td>Contact supplier for inventory compliance status.</td>
</tr>
<tr>
<td>AICS</td>
<td>Contact supplier for inventory compliance status.</td>
</tr>
</tbody>
</table>

**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

Revision Date: 17-Aug-2016

Revision Note: No information available

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA</td>
<td>TWA (time-weighted average)</td>
</tr>
<tr>
<td>Ceiling</td>
<td>Maximum limit value</td>
</tr>
<tr>
<td>C</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

**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.

**End of Safety Data Sheet**