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Japan / English

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

Product Name VariDur 10 &amp; 200 Liquid

Product Code(s) 11-1029, 11-1033

(M)SDS Number 1342777\_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

Legal Entity ITW Japan KK

Legal Entity Address 1-4-4, Kitasuna, Koto-ku, Tokyo

**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**

Flammable liquids	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Skin sensitization	Category 1
Reproductive toxicity	Category 1B

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

H227 - Combustible liquid  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation  
 H317 - May cause an allergic skin reaction  
 H360Df - May damage the unborn child. Suspected of damaging fertility

**Precautionary Statements - Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Avoid release to the environment  
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Keep cool

**Precautionary Statements - Response**

Specific treatment (see supplemental first aid instructions on this label)  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 Call a POISON CENTER or doctor  
 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed  
 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**

Chemical name	Weight-%	ENCS - Japan Existing and New Chemical Substances	ISHL No.	CAS-No
Tetrahydrofurfuryl methacrylate	50 - 75%	(5)-57	Present	2455-24-5
2-Propenoic acid, 2-methyl-, monoester	25 - 50%	(2)-1044	Present	27813-02-1

with 1,2-propanediol				
1,4-Butanediol dimethacrylate	0 - 10%	(2)-1059	Present	2082-81-7
Benzenamine, N,N,4-trimethyl-	0 - 1%	(3)-191	Present	99-97-8
Hydroquinone	0 - 0.1%	(3)-543	Present	123-31-9

**Pollutant Release and Transfer Registry (PRTR)**

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed.

Chemical name	Weight-%	Class	Cabinet order number	Relevant substance, conversion factor
Hydroquinone 123-31-9	0 - 0.1%	Class I designated chemical substance	1-336	

**Industrial Safety and Health Law**

Not applicable

Chemical name	ISHL Notifiable Substances	Threshold Values (%)
Hydroquinone 123-31-9	ISHL Notifiable Substances	0.1

**Poisonous and Deleterious Substances Control Law** Not applicable

## 4. FIRST AID MEASURES

**First aid measures****General advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Inhalation**

If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Immediate medical attention is required.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Ingestion**

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

**Symptoms**

Coughing and/ or wheezing. Difficulty in breathing.

**Self-protection of the first aider**

Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not breathe vapor or mist. Use personal protective equipment as required. See section 8 for more information.

**Note to physicians**

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

<b>Flammable Properties</b>	Not flammable. Combustible Liquid.
<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Unsuitable extinguishing media</b>	No information available.
<b>Specific hazards arising from the chemical</b>	Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.
<b>Special Extinguishing Media</b>	Cool drums with water spray.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Keep people away from and upwind of spill/leak. Remove all sources of ignition.
<b>Other Information</b>	Refer to protective measures listed in Sections 7 and 8.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b>Environmental precautions</b>	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.
<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.
<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.
<b>Reference to other sections</b>	See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Handling

<b>Advice on safe handling</b>	Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.
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### Storage

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children.
<b>General hygiene considerations</b>	Do not eat, drink or smoke when using this product. Contaminated work clothing should not

be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. 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
Hydroquinone 123-31-9	-	-	TWA: 1 mg/m <sup>3</sup>

**Biological occupational exposure limits** Not applicable

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

### Personal protective equipment

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** No special protective equipment required.

**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** Liquid  
**Appearance** Colorless  
**Odor** Characteristic  
**Color** No information available  
**Odor Threshold** No information available

Property	Values	Remarks Method
pH	Not determined	
Melting / freezing point	No data available	None known
Boiling point / boiling range	> 34°C	None known
Flash Point	91°C C	
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	1.034	
Water Solubility	Immiscible	
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	

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	None known
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	Yes
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks. Excessive heat.
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. Toxic by inhalation. (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.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	Coughing and/ or wheezing. Difficulty in breathing.

**Numerical measures of toxicity - Product Information**

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

ATEmix (oral)	11,442.00 mg/kg
ATEmix (inhalation-gas)	770.00 mg/L
ATEmix (inhalation-vapor)	3.30 mg/L

**Unknown acute toxicity**

74 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 99.45 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 99.45 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 99.45 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 99.45 % 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
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol 27813-02-1	= 11200 mg/kg ( Rat )	> 3000 mg/kg ( Rabbit )	
Benzenamine, N,N,4-trimethyl- 99-97-8	= 1650 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	= 1400 mg/m <sup>3</sup> ( Rat ) 4 h
Hydroquinone 123-31-9	= 298 mg/kg ( Rat )	= 74800 mg/kg ( Rabbit )	

#### 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** .

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

Chemical name	Carcinogenicity	IARC
Benzenamine, N,N,4-trimethyl- 99-97-8	2	Group 2B
Hydroquinone 123-31-9	2	Group 3

#### **Legend:**

IARC (International Agency for Research on Cancer)  
 Group 2B - Possibly Carcinogenic to Humans  
 Group 3 - Not Classifiable as to Carcinogenicity in Humans

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

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

**Target Organ Effects** Respiratory system. Eyes. Skin. Gastrointestinal tract (GI).

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

**Percentage for unknown hazards** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Ecotoxicity** Harmful to aquatic life with long lasting effects. .

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to	Daphnia Magna (Water

			Microorganisms	Flea)
Tetrahydrofurfuryl methacrylate		96h LC50: 31.1 - 38.8 mg/L (Pimephales promelas)	-	
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol		48h LC50: = 493 mg/L (Leuciscus idus melanotus)	-	
Benzenamine, N,N,4-trimethyl-		96h LC50: 42 - 50.5 mg/L (Pimephales promelas)	-	
Hydroquinone	72h EC50: = 0.335 mg/L (Pseudokirchneriella subcapitata) 120h EC50: = 13.5 mg/L (Desmodesmus subspicatus)	96h LC50: = 0.044 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.044 mg/L (Pimephales promelas) 96h LC50: 0.1 - 0.18 mg/L (Pimephales promelas) 96h LC50: = 0.17 mg/L (Brachydanio rerio)	EC50 = 0.038 mg/L 15 min EC50 = 0.0382 mg/L 30 min EC50 = 0.042 mg/L 5 min EC50 = 23.75 mg/L 60 min	48h EC50: = 0.29 mg/L

**Persistence and Degradability** No information available.

**Bioaccumulation**

#### Component Information

Chemical name	Log Pow
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol	0.97
Benzenamine, N,N,4-trimethyl-	2.81
Hydroquinone	0.5

**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** Not applicable

#### **Fire Service Law:**

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

Flammable liquids, group 4, 3rd class petroleums, water-insoluble, hazard rank III, 2000 liters

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

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed

Chemical name	Chemical Substances Control Law
Hydroquinone 123-31-9	Priority assessment chemical substance

#### **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

#### **Water Pollution Control Act**

Designated substance may cause adverse effects to human health or the living environment per Water Pollution Control Law article 2 and Enforcement Order article 3-3

#### **Sewerage Act**

Sewerage Act article 12-2 and Enforcement Order article 9-4

#### **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/NDL** - 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

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**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**

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**End of Safety Data Sheet**