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Japan / English

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product Name VariDur 10 & 200 Liquid

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

(M)SDS Number 1342777_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

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2. HAZARDS IDENTIFICATION

GHS Classification

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**

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

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

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 CO₂, dry chemical, or foam for extinction**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-%	Inventory - Japan - Existing and New Chemical Substances (ENCS)	ISHL No.	CAS No
Tetrahydrofurfuryl methacrylate	50 - 75%	(5)-57	No information available	2455-24-5
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol	25 - 50%	No information available	No information available	27813-02-1
1,4-Butanediol dimethacrylate	0 - 10%	No information available	No information available	2082-81-7
Benzenamine, N,N,4-trimethyl-	0 - 1%	(3)-191	No information available	99-97-8

Hydroquinone	0 - 0.1%	No information available	No information available	123-31-9
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Pollutant Release and Transfer Registry (PRTR)

Not applicable.

Industrial Safety and Health Law

Not applicable

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

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

fire-fighters gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	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.
Other Information	Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.
Environmental precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.
Methods for containment	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.
Methods for cleaning up	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. 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 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.

Storage

Storage Conditions 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.

General hygiene considerations 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 This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits	Not applicable
Engineering controls	Showers Eyewash stations Ventilation systems.
<u>Personal Protective Equipment</u>	
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

<u>Property</u>	<u>Values</u>	<u>Remarks Method</u>
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	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 (%)	No information available
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.
Hazardous Polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Excessive heat.
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. 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)	3.00 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	Oral LD50	Dermal LD50	Inhalation LC50
Benzenamine, N,N,4-trimethyl- 99-97-8	= 1650 mg/kg (Rat)	> 2000 mg/kg (Rat)	= 1400 mg/m ³ (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	No information available.

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

Chemical name	GHS-Carcinogenicity	IARC
Benzenamine, N,N,4-trimethyl-99-97-8	2	Group 2B

Legend:

IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to 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 29.45 % 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 Microorganisms	Daphnia Magna (Water Flea)
Tetrahydrofurfuryl methacrylate	-	96h LC50: 31.1 - 38.8 mg/L (Pimephales promelas)	-	-
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
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/IMO 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)
 Not applicable

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

Chemical name	Fire service law group	Hazardous material	Hazard rank
Tetrahydrofurfuryl methacrylate 2455-24-5	4	Flammable liquids	III
Benzenamine, N,N,4-trimethyl- 99-97-8	4	Flammable liquids	III

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

Not applicable

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

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Revision Date	17-Aug-2016
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Revision Note	No information available
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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.



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End of Safety Data Sheet