SAFETY DATA SHEET

Issuing Date 01-Mar-2017 **Revision Date** 01-Mar-2017 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **VariDur 10 & 200 Liquid**

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

(M)SDS Number 1342777_A

Other means of identification

Synonyms None

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 41 Waukegan Rd
Lake Bluff, IL 60044
www.buehler.com

Phone number +1 847 295 6500

E-mail Address custserv@buehler.com

Emergency telephone number

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

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Reproductive Toxicity	Category 1B
Flammable liquids	Category 4

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Danger**

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
May damage fertility or the unborn child
Combustible liquid

Appearance Colorless **Physical state** Liquid **Odor** Characteristic

Precautionary Statements - Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
None

Eyes
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

Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention

Precautionary Statements - Storage
Store locked up

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

Hazards not otherwise classified (HNOC)

Not applicable

Other information

No information available

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical name	CAS No	Weight-%	Trade Secret
Tetrahydrofurfuryl methacrylate	2455-24-5	50 - 75%	*
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol	27813-02-1	25 - 50%	*
1,4-Butanediol dimethacrylate	2082-81-7	0 - 10%	*
Benzenamine, N,N,4-trimethyl-	99-97-8	0 - 1%	*
Hydroquinone	123-31-9	0 - 0.1%	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

Eye contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin contact Wash with soap and water.

Inhalation Remove to fresh air.

Ingestion Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person.

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. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam. Dry chemical, CO2, alcohol-resistant foam or water spray.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

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.

Explosion Data
Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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.
Other Information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so. 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.

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

Storage 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.

Incompatible Products None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydroquinone 123-31-9	TWA: 1 mg/m³	TWA: 2 mg/m³ (vacated) TWA: 2 mg/m³	IDLH: 50 mg/m³ Ceiling: 2 mg/m³ 15 min

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

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 / 196 F	
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
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
Specific Gravity	1.034	
Water Solubility	Immiscible	
Solubility in other solvents	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
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

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.

Component Information

Chemical name	Oral LD50	Dermal LD50	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/m³ (Rat) 4 h
Hydroquinone 123-31-9	= 298 mg/kg (Rat)	= 74800 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms No information available.

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

Sensitization No information available.

Mutagenic Effects No information available.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Benzenamine, N,N,4-trimethyl- 99-97-8		Group 2B		
Hydroquinone 123-31-9	A3	Group 3		

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic Toxicity Contains a known or suspected carcinogen.

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

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

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

ATEmix (oral)

13,751.00 mg/kg
ATEmix (dermal)
60,000.00 mg/kg (ATE)
ATEmix (inhalation-dust/mist)
100.20 mg/L
ATEmix (inhalation-vapor)
600.00 ATEmix

12. ECOLOGICAL INFORMATION

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 2455-24-5		96h LC50: 31.1 - 38.8 mg/L (Pimephales promelas)		
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol 27813-02-1		48h LC50: = 493 mg/L (Leuciscus idus melanotus)		
Benzenamine, N,N,4-trimethyl- 99-97-8		96h LC50: 42 - 50.5 mg/L (Pimephales promelas)		
Hydroquinone 123-31-9	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

Chemical name	Log Pow
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol 27813-02-1	0.97
Benzenamine, N,N,4-trimethyl- 99-97-8	2.81
Hydroquinone 123-31-9	0.5

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging Dispose of contents/containers in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT NOT REGULATED
Proper Shipping Name NON REGULATED
Hazard Class N/A

TDG NOT REGULATED

MEX NOT REGULATED

ICAO NOT REGULATED

IATA NOT REGULATED
Proper Shipping Name NON REGULATED

IMDG/IMO NOT REGULATED

RID NOT REGULATED

ADR NOT REGULATED

ADN NOT REGULATED

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %

Hydroquinone - 123-31-9	123-31-9	0 - 0.1%	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Hydroquinone 123-31-9	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Benzenamine, N,N,4-trimethyl- - 99-97-8	Carcinogen

U.S. State Right-to-Know Regulations

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Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Hydroquinone 123-31-9	X	X	X	X	X

International Regulations

Component	Carcinogen Status	Exposure Limits
Hydroquinone 123-31-9 (0 - 0.1%)		Mexico: TWA 2 mg/m³

Canada

WHMIS Hazard Class

Not determined

16. OTHER INFORMATION

NFPA	**Health Hazards** 1	**Flammability** 2	**Instability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazards** 1	**Flammability** 2	**Physical Hazard** 0	**Personal Protection** X

Chronic Hazard Star Legend * = Chronic Health Hazard

Prepared By

Product Stewardship
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1-800-572-6501

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Revision Note	No information available

Disclaimer

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