

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

Product identifier

Product Name VariKleer Liquid
Product Code(s) 20-3592, 20-3592-001, 20-3592-005
(M)SDS Number 1344869_A

Other means of identification

UN-No. UN1247
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 Asia Pacific: +1 760 476 3960
Middle East/Africa: +1 760 476 3959 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 |
| Skin sensitization | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Flammable liquids | Category 2 |

GHS Label elements, including precautionary statements**Emergency Overview**

| | | |
|---|---------------|------------------------------|
| Signal word | Danger | |
| Hazard Statements | | |
| Causes skin irritation | | |
| May cause an allergic skin reaction | | |
| May cause respiratory irritation | | |
| Highly flammable liquid and vapor | | |
|  | | |
| Appearance | Colorless | Physical state Liquid |
| | | Odor Characteristic |

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Use explosion-proof electrical/ ventilating/ lighting/ equipment
 Keep cool

Precautionary Statements - Response

None

Skin

If skin irritation or rash occurs: Get medical advice/attention
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell

Fire

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

Hazards not otherwise classified (HNOC)

Not applicable

Other information

No information available

Interactions with Other Chemicals

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical name | CAS-No | Percent | Trade Secret |
|-------------------------------|-----------|-----------|--------------|
| Methyl methacrylate | 80-62-6 | 90 - 100% | * |
| 1,4-Butanediol dimethacrylate | 2082-81-7 | 0 - 10% | * |

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

4. FIRST AID MEASURES

First aid measures

General Advice

Show this safety data sheet to the doctor in attendance.

Eye contact

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

Skin contact

May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

Ingestion

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

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.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects

Burning sensation. Coughing and/ or wheezing. Difficulty in breathing. Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray, fog or alcohol-resistant foam. Dry chemical, CO₂, alcohol-resistant foam or water spray.

Unsuitable extinguishing media

CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. Do not use straight streams.

Specific hazards arising from the chemical

Vapors can form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.

Uniform Fire Code Sensitizer: Liquid

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge Yes.

Protective equipment and precautions for firefighters

Move containers from fire area if you can do it without risk.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk.

Other Information Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up Use clean non-sparking tools to collect absorbed material. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

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. Take off contaminated clothing and wash before reuse. Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

Conditions for safe storage, including any incompatibilities

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. 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. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

Incompatible Products

Strong acids. Strong oxidizing agents. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--------------------------------|------------------------------|--|--|
| Methyl methacrylate 80-62-6 | STEL: 100 ppm TWA: 50 ppm | TWA: 100 ppm TWA: 410 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 410 mg/m ³ | IDLH: 1000 ppm TWA: 100 ppm TWA: 410 mg/m ³ |

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Appropriate engineering controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

If splashes are likely to occur: None required for consumer use. Tight sealing safety goggles.

| | |
|---------------------------------|--|
| Skin and body protection | Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves. Chemical resistant apron. Antistatic boots. |
| 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 | Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. 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. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

| | | | |
|-----------------------|--------------------------|-----------------------|--------------------------|
| Physical state | Liquid | Odor | Characteristic |
| Appearance | Colorless | Odor Threshold | No information available |
| Color | No information available | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks</u> | <u>Method</u> |
|---|-------------------------|----------------|---------------|
| pH | Not determined | | |
| Melting / freezing point | -48°C | None known | |
| Boiling point / boiling range | 101°C / 214 °F | | |
| Flash Point | 10°C / 50 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 | 47 hPa at 20°C | None known | |
| Vapor density | No data available | None known | |
| Specific Gravity | 0.945 g/cm ³ | | |
| Water Solubility | Immiscible | | |
| Solubility in other solvents | No data available | None known | |
| Partition coefficient: n-octanol/water | No data available | None known | |
| Autoignition temperature | 430°C | 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 (%) | Not applicable |
| 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

Strong acids. Strong oxidizing agents. Strong bases.

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. May cause irritation of respiratory tract. |
| Eye contact | Specific test data for the substance or mixture is not available. (based on components). May cause redness, itching, and pain. Causes serious eye irritation. |
| Skin contact | Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). Prolonged contact may cause redness and irritation. |
| Ingestion | Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

Component Information

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

Information on toxicological effects

Symptoms Erythema (skin redness). May cause redness and tearing of the eyes. Itching. Rashes. Hives. Coughing and/ or wheezing.

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

Sensitization May cause sensitization in susceptible persons. May cause sensitization by skin contact.

Mutagenic Effects No information available.

Carcinogenicity Contains no ingredient listed as a carcinogen.

| Chemical name | ACGIH | IARC | NTP | OSHA |
|--------------------------------|-------|---------|-----|------|
| Methyl methacrylate 80-62-6 | | Group 3 | | |

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

Reproductive toxicity No information available.

STOT - single exposure Respiratory system.

STOT - repeated exposure No information available.

Chronic Toxicity Carcinogenic potential is unknown.

Target Organ Effects Respiratory system. Eyes. Skin.

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

Not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

| Chemical name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|--------------------------------|---|--|----------------------------|----------------------------|
| Methyl methacrylate 80-62-6 | 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

| Chemical name | Log Pow |
|--------------------------------|---------|
| Methyl methacrylate 80-62-6 | 0.7 |

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Should not be released into the environment. Dispose of contents/containers in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated Packaging

Dispose of contents/containers in accordance with local regulations.

US EPA Waste Number

D001 U162

California Hazardous Waste Codes 331

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical name | California Hazardous Waste |
|--------------------------------|----------------------------|
| Methyl methacrylate 80-62-6 | Toxic Ignitable |

14. TRANSPORT INFORMATION

DOT

| | |
|---|--|
| UN-No. | UN1247 |
| Proper Shipping Name | METHYL METHACRYLATE MONOMER, STABILIZED |
| Hazard Class | 3 |
| Packing Group | II |
| Reportable Quantity (RQ) (RQ/% in mixture) | METHYL METHACRYLATE: RQ KG= 477.89 |
| Description | UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, 3, II, RQ |
| Emergency Response Guide Number | 129P |

TDG

| | |
|-----------------------------|--|
| UN-No. | UN1247 |
| Proper Shipping Name | METHYL METHACRYLATE MONOMER, STABILIZED |
| Hazard Class | 3 |
| Packing Group | II |
| Description | UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, 3, II |

MEX

| | |
|-----------------------------|--|
| UN-No. | UN1247 |
| Proper Shipping Name | METHYL METHACRYLATE MONOMER, STABILIZED |
| Hazard Class | 3 |
| Packing Group | II |
| Description | UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, 3, II |

ICAO

| | |
|-----------------------------|--|
| UN-No. | UN1247 |
| Proper Shipping Name | METHYL METHACRYLATE MONOMER, STABILIZED |
| Hazard Class | 3 |
| Packing Group | II |
| Description | UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, 3, II |

IATA

| | |
|-----------------------------|--|
| UN-No. | UN1247 |
| Proper Shipping Name | METHYL METHACRYLATE MONOMER, STABILIZED |
| Hazard Class | 3 |
| Packing Group | II |
| Description | UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, 3, II |

IMDG/IMO

| | |
|-----------------------------|---|
| UN-No. | UN1247 |
| Proper Shipping Name | METHYL METHACRYLATE MONOMER, STABILIZED |
| Hazard Class | 3 |
| Packing Group | II |
| EmS-No. | F-E, S-D |
| Description | UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, 3, II, (10°C C.C.) |

RID

| | |
|-----------------------------|--|
| UN-No. | UN1247 |
| Proper Shipping Name | METHYL METHACRYLATE MONOMER, STABILIZED |
| Hazard Class | 3 |
| Packing Group | II |
| Classification code | F1 |
| Description | UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, 3, II |
| ADR/RID-Labels | 3 |

ADR

UN-No. UN1247
Proper Shipping Name METHYL METHACRYLATE MONOMER, STABILIZED
Hazard Class 3
Packing Group II
Classification code F1
Tunnel restriction code (D/E)
Description UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, 3, II, (D/E)

ADN

UN-No. UN1247
Proper Shipping Name METHYL METHACRYLATE MONOMER, STABILIZED
Hazard Class 3
Packing Group II
Classification code F1
Description UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, 3, II
Hazard Labels 3
Limited Quantity 1 L
Ventilation VE01

15. REGULATORY INFORMATION

International Inventories

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

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 contains a chemical or 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 | Percent | SARA 313 - Threshold Values % |
|-------------------------------|---------|-----------|-------------------------------|
| Methyl methacrylate - 80-62-6 | 80-62-6 | 90 - 100% | 1.0 |

SARA 311/312 Hazard Categories

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

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|--------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Methyl methacrylate 80-62-6 | 1000 lb | | | X |

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical name | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ |
|---------------------|--------------------------|------------------------------------|---------------------|
| Methyl methacrylate | 1000 lb | | RQ 1000 lb final RQ |

| | | | |
|---------|--|--|--------------------|
| 80-62-6 | | | RQ 454 kg final RQ |
|---------|--|--|--------------------|

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Chemical name | New Jersey | Massachusetts | Pennsylvania | Rhode Island | Illinois |
|--------------------------------|------------|---------------|--------------|--------------|----------|
| Methyl methacrylate 80-62-6 | X | X | X | X | X |

International Regulations**Mexico****National occupational exposure limits**

| Component | Carcinogen Status | Exposure Limits |
|--|-------------------|--|
| Methyl methacrylate 80-62-6 (90 - 100%) | | Mexico: TWA 100 ppm Mexico: TWA 410 mg/m ³ Mexico: STEL 125 ppm Mexico: STEL 510 mg/m ³ |

Mexico - Occupational Exposure Limits - Carcinogens

Canada**WHMIS Hazard Class**

Not determined

16. OTHER INFORMATION

| | | | | |
|-------------|-------------------------|-----------------------|--------------------------|---|
| NFPA | Health Hazards 2 | Flammability 3 | Instability 0 | Physical and Chemical Hazards - Personal Protection X |
| HMIS | Health Hazards 2 | Flammability 3 | Physical Hazard 0 | |

| | |
|----------------------|--|
| Prepared By | Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501 |
| Issuing Date | 01-Mar-2017 |
| Revision Date | 19-Jul-2017 |
| 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



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End of Safety Data Sheet