SAFETY DATA SHEET

Revision date 09-April-2020

| 1. Identification | |
|---|--------------------------|
| Product identifier | |
| Product Name | GLYCERIN, BIOTECHGRADE |
| Other means of identification | |
| Product Code(s) | G1433 |
| Synonyms | None |
| Recommended use of the chemical | and restrictions on use |
| Recommended use | No information available |
| Restrictions on use | No information available |
| Details of the supplier of the safety | data sheet |
| <u>Supplier Address</u> Spectrum Chemical Mfg. Corp. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000 | |
| Emergency telephone number | |
| Emergency Telephone | Chemtrec 1-800-424-9300 |
| | |
| 2. Hazard(s) identification | |
| <u>Classification</u> | |
| Serious eye damage/eye irritation | Category 2B |
| | |

Hazards not otherwise classified (HNOC) Not applicable

| Label elements | | |
|--|-----------------------|-------------------|
| Warning | | |
| Hazard statements Causes eye irritation | | |
| Appearance viscous | Physical state Liquid | Odor Sligh |



Revision Number 3

Wash face, hands and any exposed skin thoroughly after handling

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 eye irritation persists: Get medical advice/attention

Other information

Causes mild skin irritation.

3. Composition/information on ingredients

Substance

| Chemical name | CAS No | Weight-% | Trade secret |
|---------------|---------|----------|--------------|
| Glycerin | 56-81-5 | 100 | * |

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

| 4. First-aid measures | | |
|--|---|--|
| Description of first aid measures | | |
| General advice | Show this safety data sheet to the doctor in attendance. | |
| Inhalation | Remove to fresh air. | |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Get medical attention if irritation develops and persists. Remove contact lenses, if present and easy to do. Continue rinsing. | |
| Skin contact | Wash skin with soap and water. | |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician. | |
| Most important symptoms and effe | cts, both acute and delayed | |
| Symptoms | Prolonged contact may cause redness and irritation. | |
| Indication of any immediate medical attention and special treatment needed | | |
| Note to physicians | Treat symptomatically. | |
| 5. Fire-fighting measures | | |
| Suitable Extinguishing Media Large Fire | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. CAUTION: Use of water spray when fighting fire may be inefficient. | |
| Unsuitable extinguishing media | Do not scatter spilled material with high pressure water streams. | |
| Specific hazards arising from the chemical | No information available. | |
| Hazardous combustion products | Carbon Monoxide, Carbon Dioxide. | |
| Explosion data | | |

Sensitivity to mechanical impact none.

Sensitivity to static discharge none.

Special protective equipment for
fire-fightersFirefighters should wear self-contained breathing apparatus and full firefighting turnout
gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

| Personal precautions | Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. |
|----------------------|---|
| Other information | Refer to protective measures listed in Sections 7 and 8. |

Methods and material for containment and cleaning up

| Methods for containment | Prevent further leakage or spillage if safe to do so. |
|-------------------------|---|
| Methods for cleaning up | Pick up and transfer to properly labeled containers. |

7. Handling and storage

| Precautions for safe handling | |
|--------------------------------------|--|
| Advice on safe handling | Handle in accordance with good industrial hygiene and safety practice. |
| Conditions for safe storage, includi | ng any incompatibilities |
| Storage Conditions | Keep containers tightly closed in a dry, cool and well-ventilated place. |

8. Exposure controls/personal protection

Control parameters

Exposure Limits

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---------------|-------------------|--------------|------------|
| Glycerin | No data available | 15 mg/m³ TWA | - |
| 56-81-5 | | 5 mg/m³ TWA | |

Appropriate engineering controls

Engineering controls Showers Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

| Eye/face protection | None required for consumer use. Wear safety glasses with side shields (or goggles). |
|--------------------------|--|
| Hand protection | Wear suitable gloves. |
| Skin and body protection | Wear suitable protective clothing. |
| 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. |

9. Physical and chemical properties

Information on basic physical and chemical properties

| Physical state | Liquid | |
|---------------------------------|-----------------------------------|------------------|
| Appearance | viscous | |
| •• | | |
| Color | clear; colorless | |
| Odor | Slight | |
| Odor threshold | No information available | |
| | | |
| Property_ | Values | Remarks • Method |
| рН | no data available | None known |
| Melting point / freezing point | 19 - 20 °C / 66.2 - 68 °F | None known |
| Boiling point / boiling range | 290 °C / 554 °F | None known |
| Flash point | 160 °C / 320 °F | None known |
| Evaporation rate | no data available | None known |
| Flammability (solid, gas) | no data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive | No data available | |
| limits | | |
| Lower flammability or explosive | No data available | |
| limits | | |
| | 0 | None known |
| Vapor pressure | 3.17 | None known |
| Vapor density | | |
| Relative density | 1.2613 - 1.2636 | None known |
| Water solubility | Soluble in water | None known |
| Solubility(ies) | Insoluble in Benzene | None known |
| | Insoluble in Chloroform | |
| | Insoluble in Carbon disulfide | |
| | Insoluble in Carbon tetrachloride | |
| | Insoluble in Petroleum ether | |
| Partition coefficient | -1.76 | None known |
| Autoignition temperature | 370 - 392 °C / 698 - 737.6 °F | None known |
| Decomposition temperature | | None known |
| Kinematic viscosity | no data available | None known |
| Dynamic viscosity | No data available | None known |
| | | |
| Other information | | |
| Explosive properties | No information available | |
| Oxidizing properties | No information available | |
| Softening point | No information available | |
| Molecular weight | 92.09 | |
| | No information available | |
| VOC Content (%) | No information available | |
| Liquid Density | | |
| Bulk density | No information available | |

10. Stability and reactivity

| Reactivity | No information available. |
|------------------------------------|---|
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | None known based on information supplied. |
| 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. Causes eye irritation. May cause redness, itching, and pain. |
| Skin contact | Specific test data for the substance or mixture is not available. Causes mild skin irritation. |
| Ingestion | Specific test data for the substance or mixture is not available. |
| Symptoms related to the physical, | chemical and toxicological characteristics |
| | |

SymptomsMay cause redness and tearing of the eyes. Prolonged contact may cause redness and
irritation.

Acute toxicity

Numerical measures of toxicity

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|---------------------|-------------------|----------------------|
| Glycerin | = 12600 mg/kg (Rat) | 21900 mg/kg (Rat) | > 570 mg/m³ (Rat)1 h |
| 56-81-5 | | | |

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

| Skin corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity | May cause skin irritation. Classification based on data available for ingredients. Classification based on data available for ingredients. Irritating to eyes. No information available. No information available. |
|---|---|
| Reproductive toxicity | No information available. |
| STOT - single exposure STOT - repeated exposure Target organ effects | No information available. No information available. kidney, respiratory system, Eyes, Skin. |
| Aspiration hazard | No information available. |
| Other adverse effects | No information available. |
| Interactive effects | No information available. |

12. Ecological information

Ecotoxicity

| Chemical name | Algae/aquatic plants | Fish | Toxicity to | Crustacea |
|---------------|----------------------|-------------------------|----------------|----------------------|
| | | | microorganisms | |
| Glycerin | - | LC50: 51 - 57mL/L (96h, | - | EC50: >500mg/L (24h, |
| 56-81-5 | | Oncorhynchus mykiss) | | Daphnia magna) |

Persistence and degradability Bioaccumulation

No information available. Inherently biodegradable.

Component Information

| Chemical name | Partition coefficient |
|---------------|-----------------------|
|---------------|-----------------------|

| Glycerin | -1.76 |
|----------|-------|
| 56-81-5 | |

Other adverse effects

No information available.

| 13. Disposal considerations | | |
|--|---|--|
| Waste treatment methods | | |
| 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

| DOT | not regulated |
|------------|---------------|
| <u>TDG</u> | not regulated |
| <u>MEX</u> | not regulated |
| ICAO (air) | not regulated |
| IATA | not regulated |
| IMDG_ | not regulated |
| RID | not regulated |
| ADR | not regulated |
| ADN | not regulated |

15. Regulatory information

International Inventories

TSCA

Complies

| DSL/NDSL | Complies |
|---------------|--|
| EINECS/ELINCS | Complies |
| ENCS | This product complies with ENCS: |
| IECSC | This product complies with China: |
| KECL | Complies |
| PICCS | Complies |
| AICS | All the constituents of this material are listed on the Australian Inventory of Chemical |
| | Substances (AICS). |

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

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

Complies

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.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

| • | 2 emical properties - | | | |
|---|--|--|----------------------------------|--|
| HMIS Health hazards | 2 | | | |
| Flammability 1 | - | | | |
| Physical hazards | ÷ 0 | | | |
| Personal protecti | ion X | | | |
| | abbreviations and acronyms used in the 8: EXPOSURE CONTROLS/PERSONAL PI TWA (time-weighted average) Maximum limit value | | STEL (Short Term Exposure Limit) | |
| Key literature references and sources for data used to compile the SDS Agency for Toxic Substances and Disease Registry (ATSDR) U.S. Environmental Protection Agency ChemView Database European Food Safety Authority (EFSA) EPA (Environmental Protection Agency) Acute Exposure Guideline Level(s) (AEGL(s)) U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act | | | | |

U.S. Environmental Protection Agency High Production Volume Chemicals Food Research Journal Hazardous Substance Database International Uniform Chemical Information Database (IUCLID) Japan GHS Classification Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS) NIOSH (National Institute for Occupational Safety and Health) National Library of Medicine's ChemID Plus (NLM CIP) National Library of Medicine's PubMed database (NLM PUBMED) National Toxicology Program (NTP) New Zealand's Chemical Classification and Information Database (CCID) Organization for Economic Co-operation and Development Environment, Health, and Safety Publications Organization for Economic Co-operation and Development High Production Volume Chemicals Program Organization for Economic Co-operation and Development Screening Information Data Set World Health Organization

Revision date09-April-2020Revision NoteNo information available.

Disclaimer The information p

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