

SAFETY DATA SHEETS

According to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Sixth revised edition

Version: 1.0

Creation Date: Aug 17, 2017

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1. Identification

1.1 GHS Product identifier

Product name	2,3-bis[[[Z]-12-hydroxyoctadec-9-enoyl]oxy]propyl (Z)-12-hydroxyoctadec-9-enoate
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1.2 Other means of identification

Product number	-
Other names	Ricinum communis oil

1.3 Recommended use of the chemical and restrictions on use

Identified uses	For industry use only. Adhesives and sealant chemicals, Lubricants and lubricant additives, Paint additives and coating additives not described by other categories
Uses advised against	no data available

2. Hazard identification

2.1 Classification of the substance or mixture

Not classified.

2.2 GHS label elements, including precautionary statements

Pictogram(s)	No symbol.
Signal word	No signal word.
Hazard statement(s)	none

Precautionary
statement(s)

Prevention

none

Response

none

Storage

none

Disposal

none

2.3 Other hazards which do not result in classification

none

3. Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
2,3-bis[[(Z)-12-hydroxyoctadec-9-enoyl]oxy]propyl (Z)-12-hydroxyoctadec-9-enoate	2,3-bis[[(Z)-12-hydroxyoctadec-9-enoyl]oxy]propyl (Z)-12-hydroxyoctadec-9-enoate	8001-79-4	none	100%

4. First-aid measures

4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a

physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

If ingested causes severe diarrhea. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

/SRP:/ Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Hydrocarbon Blends, Mixtures, and Related Compounds/

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

To fight fire, use /carbon dioxide/, dry chemical, fog, mist.

5.2 Specific hazards arising from the chemical

This chemical is combustible.

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Collect leaking liquid in covered containers.

6.3 Methods and materials for containment and cleaning up

SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state and federal requirements for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Castor oil should be stored at a temperature not exceeding 25°C in well-filled airtight containers, protected from light.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9. Physical and chemical properties

Physical state	Light yellow viscous liquid.
Colour	Pale-yellowish or almost colorless, transparent, viscous liquid
Odour	Faint, mild odor
Melting point/ freezing point	-12°C
Boiling point or initial boiling point and boiling range	313°C(lit.)

Flammability	Combustible.
Lower and upper explosion limit / flammability limit	no data available
Flash point	>113°C
Auto-ignition temperature	448.89°C
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	At 25°C: 6-8 poises, also expressed as U +/- 1/2 (Gardner-Holdt scale)
Solubility	less than 1 mg/mL at 20°C
Partition coefficient n-octanol/water (log value)	no data available
Vapour pressure	no data available
Density and/or relative density	0.961g/mL at 25°C
Relative vapour density	no data available
Particle characteristics	no data available

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Has excellent keeping qualities, does not turn rancid unless subjected to excessive heat [The Merck Index, Fourteenth Edition (2006)]

10.3 Possibility of hazardous reactions

Combustible when exposed to heat. Spontaneous heating may occur. CASTOR OIL can develop heat spontaneously in the air. [Hawley]. Reacts with acids to liberate heat along with alcohols and acids. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Incompatible with strong oxidizing agents.

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: Carbon oxides.

11. Toxicological information

Acute toxicity

- Oral: no data available
- Inhalation: no data available
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12. Ecological information

12.1 Toxicity

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Other adverse effects

no data available

13. Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it

unusable for other purposes and then be disposed of in a sanitary landfill.
Controlled incineration with flue gas scrubbing is possible for combustible
packaging materials.

14. Transport information

14.1 UN Number

ADR/RID: Not dangerous
goods.

IMDG: Not dangerous
goods.

IATA: Not dangerous
goods.

14.2 UN Proper Shipping Name

ADR/RID: unknown

IMDG: unknown

IATA: unknown

14.3 Transport hazard class(es)

ADR/RID: Not dangerous
goods.

IMDG: Not dangerous
goods.

IATA: Not dangerous
goods.

14.4 Packing group, if applicable

ADR/RID: Not dangerous
goods.

IMDG: Not dangerous
goods.

IATA: Not dangerous
goods.

14.5 Environmental hazards

ADR/RID: no

IMDG: no

IATA: no

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and	CAS	EC number
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	synonyms	number	
2,3-bis[[(Z)-12-hydroxyoctadec-9-enoyl]oxy]propyl (Z)-12-hydroxyoctadec-9-enoate	2,3-bis[[(Z)-12-hydroxyoctadec-9-enoyl]oxy]propyl (Z)-12-hydroxyoctadec-9-enoate	8001-79-4	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

16. Other information

Information on revision

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Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website:
<http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website:
<https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website:
<http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website:
<http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website:
<http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website:
<http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.