Chemical Safety Data Sheet MSDS / SDS

2-[2-(4-nonylphenoxy)ethoxy]ethanol SDS

Revision Date:2024-04-25 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: 2-[2-(4-nonylphenoxy)ethoxy]ethanol

CAS: 20427-84-3

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification

Classification of the substance or mixture

Skin irritation, Category 2
Eye irritation, Category 2

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 3

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Warning

Hazard statement(s)

H315 Causes skin irritation
H319 Causes serious eye irritation
H412 Harmful to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P273 Avoid release to the environment.

Response

P302+P352 IF ON SKIN: Wash with plenty of water/...
P321 Specific treatment (see ... on this label).
P332+P317 If skin irritation occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

none

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	2-[2-(4-nonylphenoxy)ethoxy]ethanol
Common names and synonyms:	2-[2-(4-nonylphenoxy)ethoxy]ethanol
CAS number:	20427-84-3
EC number:	243-816-4
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

Most important symptoms/effects, acute and delayed

Contact with eyes causes irritation. Prolonged contact with skin causes irritation. (USCG, 1999)

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

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 as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on 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. Ethylene glycol, glycols, and related compounds

SECTION 5: Firefighting measures

Suitable extinguishing media

Fire Extinguishing Agents Not to Be Used: Water may be ineffective on fire. Fire Extinguishing Agents: Dry chemicals, foam, carbon dioxide (USCG, 1999)

Specific hazards arising from the chemical

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. For UN3508, be aware of possible short circuiting as this product is transported in a charged state. (ERG, 2016)

Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use

spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

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

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. 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

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Ethoxylated nonylphenol is a colorless liquid or white solid with a mild odor. May float or sink in water. A low molecular-weight polymer. Used as a non-ionic surfactant, as an emulsifier, or as a metal cleaner, depending on the degree of polymerization.
Colour:	no data available
Odour:	no data available
Melting point/freezing point:	42-43°C
Boiling point or initial boiling point and boiling range:	436.2°C at 760 mmHg
Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	217.6°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available

Kinematic viscosity:	no data available
Solubility:	Turned cloudy with 10.5 mg/mL, remained cloudy after 10 mL added. (NTP, 1992)
Partition coefficient n-octanol/water:	no data available
Vapour pressure:	2.23E-08mmHg at 25°C
Density and/or relative density:	0.978g/cm3
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

No rapid reaction with air. No rapid reaction with water.

Chemical stability

no data available

Possibility of hazardous reactions

ETHOXYLATED NONYLPHENOL is a polyether. May react exothermically with strong oxidizing agents.

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

When heated to decomposition it emits acrid smoke and fumes.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 1310 mg/kg

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

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50; Species: Lepomis macrochirus (Bluegill) weight 1.0 g; Conditions: freshwater, flow through, 21 deg C, pH 7.1, hardness 38 mg/L CaCO3, dissolved oxygen 8.9-9.4 mg/L CaCO3; Concentration: >10000 ug/L for 24 hr /100% purity formulation

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water Flea) age <24 hr; Conditions: freshwater, renewal, 25 deg C, hardness 150 mg/L CaCO3; Concentration: 14000 ug/L for 48 hr (95% confidence interval: 13000-16000 ug/L); Endpoint: immobilization.

Toxicity to algae: LC50; Species: Pseudokirchneriella subcapitata (Green Algae); Conditions: freshwater, renewal, 25 deg C, hardness 150 mg/L CaCO3; Concentration: 12000 ug/L for 96 hr

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: An aerobic biodegradation study was conducted on a mixture of polyethylene glycol linear nonylphenyl ethers utilizing sediment inocula from the Yahagi River, Kawasaki, Japan reported 97% and 98% biodegradation after 30 days for standing and stirred samples, respectively(1). An aerobic river die-away test conducted on a mixture of polyethylene glycol linear nonylphenyl ethers with an inoculum obtained from the Arakawa River, Horikiri, Japan reported 98% and 99% biodegradation after 30 days for standing and stirred samples, respectively(1). Two metabolites, nonylphenol diethoxylate and nonylphenol ethoxylate, were identified during these aerobic degradation studies of nonyl substituted polyethylene glycol linear nonylphenyl ether(1). A series of aerobic screening studies were conducted on nonyl substituted polyethylene glycol linear nonylphenyl ethers(2). Results from the aerobic biodegradation of polyethylene glycol linearnonylphenyl ethers for a river die-away, Spanish Official (adapted for anionic compounds), OECD Spanish Official (adapted for nonanionic compounds), and OECD confirmatory test were reported as degradations of 93% in 14 days, 70% in 21 days, 68% in 8 days, 91% in 8 days, and 88% at a retention time of 3 hours, respectively(2). Under conditions simulating a river water environment (Missouri River near Columbia MO, 7.5 miles downstream from the Columbia Wastewater Treatment Plant), over 40% of the 14C ring-labeled polyethylene glycol nonylphenyl ether was converted to 14CO2 in 128 days; overall biodegradation was 87-97%. The water temperature was 20 deg C, dissolved oxygen 8.7 mg/L, pH 8.22, alkalinity 180 mg/L, and hardness 270 mg/L; test compound concentration was 100 ug/L(3).

Bioaccumulative potential

BCF values of <0.2 to <1.4 were measured in carp at polyethylene glycol nonylphenyl ether concentrations of 2.0 and 0.2 mg/L, respectively. According to a classification scheme(3), these BCF values indicate that bioconcentration of this mixture in aquatic organisms is low(SRC). Nonylphenol, nonylphenol monoethoxylate, and nonylphenol diethoxylate are more lipophilic and may bioconcentrate in aquatic organisms to a greater extent than higher oligomers(3).

Mobility in soil

Adsorption of nonylphenol polyethoxylates is dependent upon the number of ethoxylate units present; sludge adsorption was greatest for nonylphenol (44-48% of the added compound adsorbed) followed by nonylphenol ethoxylate (n=1) (14-15% of the added compound adsorbed to sludge), and nonylphenol diethoxylate (6-7% of the added compound adsorbed to sludge)(1). Adsorption of nonylphenyl ethoxylate (n=6) to sediment was dependent on the organic matter concentration(2). A Koc of 6.1 was measured in sediment(2). Polyethyleneglycol nonylphenyl ether (n=1-3) was observed to Kd values ranging from 450-1460 L/kg in sediment, 230-590 L/kg in sediment without organic carbon, 25-92 L/kg in silica, and 12,000-13,000 L/kg in sludge, suggesting strong sorption may occur to the solid phase in soil(SRC).

Other adverse effects

no data available

SECTION 13: Disposal considerations

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.

SECTION 14: Transport information

UN Number

ADR/RID: no data available
IMDG: no data available
IATA: no data available

UN Proper Shipping Name

ADR/RID: no data available
IMDG: no data available
IATA: no data available

Transport hazard class(es)

ADR/RID: no data available
IMDG: no data available
IATA: no data available

Packing group, if applicable

ADR/RID: no data available
IMDG: no data available
IATA: no data available

Environmental hazards

ADR/RID: No
IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

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)

Not Listed.

(PICCS)

Not Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Not Listed.

Korea Existing Chemicals List (KECL)

Not Listed.

SECTION 16: Other information

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/