Safety Data Sheet

According to the UN GHS revision 8

Creation Date: August 13, 2024
Revision Date: August 13, 2024

1. IDENTIFICATION

1.1 GHS Product identifier

Product name: Palmitic acid

Catalog Number: T2908

CAS Number: 57-10-3

1.2 Other means of identification

Other names: -

1.3 Recommended use of the chemical and restrictions on use

Identified uses:

1.4 Supplier's details

Company: Targetmol Chemicals Inc.

Uses advised against: 36 Washington Street,Wellesley Hills, Massachusetts 02481 USA

Tel/Fax: (781) 999-4286

1.5 Emergency phone number

Emergency phone number: 781-999-4286

Service hours: Monday to Friday, 9am-5pm (Standard timezone:UTC/GMT -5hours).

2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Not classified.

2.2 GHS label elements, including precautionary statements

Pictogram(s):

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 resultin classification

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Palmitic acid	-	57-10-3	200-312-9

4. FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General advice

no data available

If inhaled

Fresh air, rest.

Following skin contact

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

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

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.

4.2 Most important symptoms/effects, acute and delayed

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. Organic acids and related compounds

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

no data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Use water spray, powder, foam, carbon dioxide.

5.2 Specific hazards arising from the chemical

Combustible.

5.3 Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

6.2 Environmental precautions

Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

6.3 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.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

NO open flames. 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.

7.2 Conditions for safe storage, including any incompatibilities

Separated from bases, oxidants and reducing agents. Well closed.

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

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

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

Eye/face protection

Wear safety spectacles.

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

Use local exhaust or breathing protection.

Thermal hazards

no data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid.
Color	White crystalline scales
Odour	no data available
Melting point/ freezing point	62.5 °C. Remarks:Value from peer reviewed data source, no data available for pressure.
Boilingpoint or initial boiling point and boiling range	351.5 °C. Remarks:Value from peer-reviewed secondary source, no data available for pressure.
Flammability	Combustible.
Lower and upper explosion limit/flammability limit	no data available
Flash point	205 °C.
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	dynamic viscosity (in mPa s) = 7.8. Temperature:70.0°C.
Solubility	DMSO: 2.56 mg/mL (10 mM), Ethanol: 27.78 mg/mL (108.33 mM),Sonication is recommended.
N-octanol-water partition coefficient	log Pow = 7.17. Remarks:Value from peer reviewed secondary source, no data available for temperature and pH.

Vapour pressure	0 mm Hg. Temperature:25 °C. Remarks:Extrapolated data (5.06 E-5 Pa).
Density and/ or relative density	0.853 g/cm³. Temperature:62 °C.
Relative vapour density	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

Reacts with bases, oxidants and reducing agents.

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

CombustibleDust explosion possible if in powder or granular form, mixed with air.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: LD50 - rat (male/female) - > 5 000 mg/kg bw.
Inhalation: LC50 - rat (male/female) - > 0.162 mg/L air (nominal).
Dermal: LD50 - rabbit (male/female) - > 2 000 mg/kg bw.

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

Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly when dispersed.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish: LC50 - Danio rerio (previous name: Brachydanio rerio) - > 1 000 mg/L - 96 h.
Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - > 4.8 mg/L - 48 h.
Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - > 0.9 mg/L - 72 h.
Toxicity to microorganisms: EC10 - Pseudomonas putida - 883 mg/L - 18 h.

12.2 Persistence and degradability

AEROBIC: During a 29-day incubation period of freshwater from the Tama River, Japan, the concentration of palmitic acid decreased from 536 to 3.7 ug/L, suggesting a half-life of approximately 0.50 days(1). Palmitic acid has been listed as an organic chemical normally easily biodegradable by biological sewage treatment, no data provided(2). Palmitic acid, present at unknown concns, reached 2% of its theoretical BOD in 5 days using a sewage inoculum(3). Palmitic acid, present at unknown concns, reached 37.2% of its theoretical BOD in 5 days using a sewage inoculum(4). Using the Warburg test method, palmitic acid, present at 500 ppm, reached 2.5% of its theoretical BOD in 1 day using activated sludge solids at a concentration of 2,500 mg/L(5). Using the Warburg test method, the biodegradation of palmitic acid in the presence of an activated sludge inoculum at 25 deg C was determined to have a half-life of 3.75 days(6). Palmitic acid, at a concn of 0.05 ppm in the presence of 50 ug/L activated sludge, produced 37.8% carbon dioxide in 5 days(7).

12.3 Bioaccumulative potential

The bioaccumulation factor of palmitic acid in golden ide fish (Leuciscus idus melanotus), calculated as the concn of chemical in fish (ug/g) divided by the medium concn of chemical in water (ug/g), was determined to be 60 after 3 days(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is moderate(SRC). The bioaccumulation factor of palmitic acid in algae (Chlorella fusca), calculated as the concn of chemical in algae (ug/g) divided by the final concn of chemical in water (ug/g), was determined to be 8,400 after 1 day(1).

12.4 Mobility in soil

The Koc of undissociated palmitic acid is estimated as 189,000(SRC), using a log Kow of 7.17(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that undissociated palmitic acid is expected to be immobile in soil. The estimated pKa of palmitic acid is 4.7(4), indicating that this compound will exist almost entirely in the anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(5).

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

no data available

14.2 UN Proper Shipping Name

no data available

14.3 Transport hazard class(es)

no data available

14.4 Packing group, if applicable

no data available

14.5 Environmental hazards

no data available

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

15. REGULATORY INFORMATION

15.1 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)	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.
Korea Existing Chemicals List (KECL)	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/

Other Information

Health effects of exposure to the substance have not been investigated.