Chemical Safety Data Sheet MSDS / SDS

Octanoic acid 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: Octanoic acid

CAS: 124-07-2

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

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SECTION 2: Hazards identification

Classification of the substance or mixture

Skin corrosion, Sub-category 1C
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 3

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage
H412 Harmful to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash ... thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P273 Avoid release to the environment.

Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P316 Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
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

P405 Store locked up.

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:	Octanoic acid
Common names and synonyms:	Octanoic acid
CAS number:	124-07-2
EC number:	204-677-5
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

Harmful if swallowed, inhaled, or absorbed through skin. Material is extremely destructive to tissues of mucous membrane, and upper respiratory tract, eyes and skin. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness or breath, headache, nausea and vomiting. (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. Organic acids and related compounds

SECTION 5: Firefighting measures

Suitable extinguishing media

If material on fire or involved in fire: Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, dry chemical or carbon dioxide. Use water spray to knock-down vapors..

Specific hazards arising from the chemical

This chemical is combustible. (NTP, 1992)

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

Environmental considerations: Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. /SRP: If time permits, pits, ponds, lagoons, soak holes, or holding areas should be sealed with an impermeable flexible membrane liner./ Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Neutralize with agricultural lime (CaO), crushed limestone ($CaCO_3$) or sodium bicarbonate ($NaHCO_3$). Absorb bulk liquid with fly ash, cement powder, or commercial sorbents.

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

Containers less than 1 gallon: Store in original container in areas inaccessible to children and persons unfamiliar with its proper use. Containers greater than 1 gallon: Do not contaminate water, food, feed by storage or disposal. ... Store this product in a cool, dry area, away from direct sunlight and heat../65 Disinfecting Heavy Duty Acid Bathroom Cleaner/

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:	Liquid. Oily.
Colour:	Colourless.
Odour:	FAINT, FRUITY-ACID ODOR
Melting point/freezing point:	16.5 °C. Atm. press.:Ca. 1 013 hPa.
Boiling point or initial boiling point and boiling range:	237 °C. Atm. press.:1 013 mBar.
Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	>= 132 - <= 134 °C. Atm. press.:Ca. 1 013 hPa.
Auto-ignition temperature:	> 300 °C. Atm. press.:Ca. 1 013 hPa. Remarks:No data available for pressure (assumed ca. 1013 hPa).
Decomposition temperature:	no data available
pH:	no data available

Kinematic viscosity:	kinematic viscosity (in mm2/s) = 6.601. Temperature:20°C.;kinematic viscosity (in mm2/s) = 4.086. Temperature:40°C.
Solubility:	less than 1 mg/mL at 64° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Pow = 3.05. Remarks:No data available for temperature and pH.
Vapour pressure:	0.004 mm Hg. Temperature:25 °C. Remarks:0.49 Pa.
Density and/or relative density:	0.91 g/cm3. Temperature:20 °C.
Relative vapour density:	5 (vs air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

no data available

Chemical stability

no data available

Possibility of hazardous reactions

CombustibleOCTANOIC ACID reacts exothermically to neutralize bases. Can react with active metals to form gaseous hydrogen and a metal salt. May absorb enough water from the air and dissolve sufficiently in it to corrode or dissolve iron, steel, and aluminum parts and containers. Reacts with cyanide salts or solutions of cyanide salts to generate gaseous hydrogen cyanide. Reacts exothermically with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides to generate flammable and/or toxic gases. Reacts with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), to generate flammable and/or toxic gases and heat. Reacts with carbonates and bicarbonates to generate a harmless gas (carbon dioxide) but still heat. Can be oxidized exothermically by strong oxidizing agents and reduced by strong reducing agents. A wide variety of products is possible. May initiate polymerization reactions or catalyze (increase the rate of) reactions among other materials.

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

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

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 - rat (male/female) - > 2 000 mg/kg bw.

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 - Lepomis macrochirus - 22 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - > 20 mg/L - 48 h.

Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 43.73 mg/L - 72 h.

Toxicity to microorganisms: EC10 - Pseudomonas putida - 912 mg/L - 18 h.

Persistence and degradability

AEROBIC: Octanoic acid reached 43, 53, 64 and 63% of its theoretical BOD after 2, 5, 10, and 30 days, respectively using a domestic sewage inoculum and an octanoic acid concn of 3.0 ppm(1). 100% decreases in initial octanoic acid concns of 0.5 mg/L and 4.3 mg/L were observed after 21 days incubation in aerobic mixed bacterial cultures obtained from trench leachate at low-level radioactive waste disposal sites in Maxey Flats, KY and West Valley, NY, respectively(2). Octanoic acid reached 60% of its theoretical oxygen demand after 5 days using a sewage seed(3). After a lag period of 2.2 days, octanoic acid present at a concn of 10,000 ppm, reached 60, 66, and 68% of its theoretical BOD after 5, 10, and 20 days, respectively using a sewage seed(4). Use of an adapted sewage seed reduced the lag period to 1.6 days, after which octanoic acid reached 60, 69, and 70% of its theoretical BOD after 5, 10, and 20 days, respectively(4). In Warburg respirometer tests using an activated sludge seed, octanoic acid, present at a concn of 500 ppm, reached 9.8, 20.4, and 32.8% of its theoretical oxygen demand after 6, 12, and 24 hours incubation, respectively(5). After 24 hours incubation, octanoic acid, present at a concn of 500 ppm, reached 5 and 59% of its theoretical oxygen demand using activated sludge inoculum from two different municipal sources(5). In a Warburg test using an activated

sludge inoculum acclimated to phenol, octanoic acid, present at a concn of 500 ppm, reached 20% of its theoretical BOD after 12 hours(6). Two bacterial soil isolants were able to utilize octanoate as a growth substrate(7). A total organic carbon removal ratio of 97% was observed for octanoic acid using a non-acclimated activated sludge and an initial octanoic acid concn of 100 mg total organic carbon/L(8).

Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for octanoic acid(SRC), using a log Kow of 3.05(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

The Koc of undissociated octanoic acid is estimated as 1,100 for the free acid(SRC), using a log Kow of 3.05(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that undissociated octanoic acid is expected to have low mobility in soil. The pKa of octanoic acid is 4.89(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).

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: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

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)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

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/