

Chemical Safety Data Sheet MSDS / SDS

Pivalic acid SDS

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

Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
Section 9	Section 10	Section 11	Section 12	Section 13	Section 14	Section 15	Section 16

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

Product name: Pivalic acid
CAS: 75-98-9

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**

Acute toxicity - Category 4, Oral
Skin irritation, Category 2

Eye irritation, Category 2

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Warning

Hazard statement(s)

H302 Harmful if swallowed

H315 Causes skin irritation

H319 Causes serious eye irritation

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

Response

P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.

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:	Pivalic acid
Common names and synonyms:	Pivalic acid
CAS number:	75-98-9
EC number:	200-922-5
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

Rinse skin with plenty of water or shower.

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.

Most important symptoms/effects, acute and delayed

CALL FOR MEDICAL AID. SOLID: Irritating to eyes and skin. Harmful if swallowed. IF IN EYES OR ON SKIN, flush with running water for at least 15 minutes; hold eyelids open if necessary. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site. If SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.

Because of low volatility, it is relatively harmless when inhaled at normal ambient temperature (around 20°C). It is slightly toxic by ingestion or skin absorption. The vapor is irritating at elevated temperatures. Can cause considerable discomfort by oral routes; may cause reversible or irreversible changes to exposed tissue, not permanent injury or death. (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

Powder, alcohol-resistant foam, water spray, carbon dioxide.

Specific hazards arising from the chemical

COMBUSTIBLE. Produces vapors irritating to eyes and skin. Decomposes to produce acrid smoke and fumes. (USCG, 1999)

Special protective actions for fire-fighters

Use water spray, powder, alcohol-resistant foam, carbon dioxide.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb liquid in sand or inert absorbent. If solid: sweep spilled substance into containers. If appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water. Store and dispose of according to local regulations.

Environmental precautions

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Collect leaking and spilled liquid in sealable containers as far as possible. If solid: sweep spilled substance into containers. If

appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water.

Methods and materials for containment and cleaning up

Collect leaking liquid in sealable containers. If solid: sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water. (Extra personal protection: A/P2 filter respirator for organic vapour and harmful dust).

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. Above 64°C use a closed system and ventilation. 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

Separated from strong oxidants and food and feedstuffs. Separated from strong oxidants, food and feedstuffs.

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 safety goggles.

Skin protection

Protective gloves.

Respiratory protection

Use local exhaust.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Solid. Solid.
Colour:	Na. (Pt/Co) (Max 50) scale - White solid.
Odour:	no data available
Melting point/freezing point:	36 °C. Atm. press.:1 013 hPa.
Boiling point or initial boiling point and boiling range:	160 - 162 °C. Atm. press.:1 013 hPa.
Flammability:	Combustible.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	78 °C. Atm. press.:1 013 hPa.
Auto-ignition temperature:	560 °C. Atm. press.:1 013 hPa.
Decomposition temperature:	no data available
pH:	no data available

Kinematic viscosity:	kinematic viscosity (in mm ² /s) = 1.7. Temperature:60.0°C.
Solubility:	Very soluble in ethanol, ethyl ether
Partition coefficient n-octanol/water:	log Pow = < 1. Temperature:20 °C.;log Pow = 1.8. Temperature:20 °C.
Vapour pressure:	0.73 kPa. Temperature:50 °C.;9 kPa. Temperature:100 °C.
Density and/or relative density:	0.9 g/cm ³ . Temperature:40 °C.
Relative vapour density:	3.6 (vs air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

The solution in water is a weak acid. The substance is a weak base. Reacts violently with strong oxidants. Attacks many metals. This produces flammable/explosive gas (hydrogen - see ICSC 0001).

Chemical stability

no data available

Possibility of hazardous reactions

Combustible. TRIMETHYLACETIC ACID is a carboxylic acid. Carboxylic acids donate hydrogen ions if a base is present to accept them. They react in this way with all bases, both organic (for example, the amines) and inorganic. Their reactions with bases, called "neutralizations", are accompanied by the evolution of substantial amounts of heat. Neutralization between an acid and a base produces water plus a salt. Carboxylic acids with six or fewer carbon atoms are freely or moderately soluble in water; those with more than six carbons are slightly soluble in water. Soluble carboxylic acid dissociate to an extent in water to yield hydrogen ions. The pH of solutions of carboxylic acids is therefore less than 7.0. Many insoluble carboxylic acids react rapidly with aqueous solutions containing a chemical base and dissolve as the neutralization generates a soluble salt. Carboxylic acids in aqueous solution and liquid or molten carboxylic acids can react with active metals to form gaseous hydrogen and a metal salt. Such reactions occur in principle for solid carboxylic acids as well, but are slow if the solid acid remains dry. Even "insoluble" carboxylic acids may absorb enough water from the air and dissolve sufficiently in it to corrode or dissolve iron, steel, and aluminum parts and

containers. Carboxylic acids, like other acids, react with cyanide salts to generate gaseous hydrogen cyanide. The reaction is slower for dry, solid carboxylic acids. Insoluble carboxylic acids react with solutions of cyanides to cause the release of gaseous hydrogen cyanide. Flammable and/or toxic gases and heat are generated by the reaction of carboxylic acids with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides. Carboxylic acids, especially in aqueous solution, also react with sulfites, nitrites, thiosulfates (to give H₂S and SO₃), dithionites (SO₂), to generate flammable and/or toxic gases and heat. Their reaction with carbonates and bicarbonates generates a harmless gas (carbon dioxide) but still heat. Like other organic compounds, carboxylic acids can be oxidized by strong oxidizing agents and reduced by strong reducing agents. These reactions generate heat. A wide variety of products is possible. Like other acids, carboxylic acids may initiate polymerization reactions; like other acids, they often catalyze (increase the rate of) chemical reactions.

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) - 2 000 mg/kg bw.

Inhalation: LC₅₀ - rat (male/female) - > 5.3 mg/L air (analytical).

Dermal: LD₅₀ - rat (male/female) - 3 160 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

The substance is severely irritating to the eyes, skin and upper respiratory tract. The substance is irritating to the gastrointestinal tract.

STOT-repeated exposure

no data available

Aspiration hazard

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: NOEC - *Oncorhynchus mykiss* (previous name: *Salmo gairdneri*) - 300 mg/L - 96 h. Remarks: Initially added.

Toxicity to daphnia and other aquatic invertebrates: IC50 - *Daphnia magna* - 320 mg/L - 24 h. Remarks: Initially added.

Toxicity to algae: EC50 - *Pseudokirchneriella subcapitata* (previous names: *Raphidocelis subcapitata*, *Selenastrum capricornutum*) - > 979 mg/L - 72 h.

Toxicity to microorganisms: NOEC - activated sludge of a predominantly domestic sewage - 1 000 mg/L - 3 h.

Persistence and degradability

AEROBIC: 2,2-Dimethylpropanoic acid at a high initial concn of 100 ppm exhibited a 24% theoretical BOD over an incubation period of 5 days in an aerobic screening study at 21 deg C using sewage inoculum(1). An aerobic screening study using activated sludge inoculum at pH 7 showed only a small removal of 2,2-dimethylpropanoic acid (high initial concn of 500 ppm) in a Warburg respirometer at pH 7(5). 2,2-Dimethylpropanoic acid exhibited a 10% theoretical BOD over an incubation period of 5 days in an aerobic screening study at 20 deg C using sewage inoculum(2). 2,2-Dimethylpropanoic acid at an initial concn of 3.4 ppm exhibited a 52% theoretical BOD over an incubation period of 10 days in an aerobic screening study at 25 deg C and pH 6.5-7.5 using sewage inoculum(3). 2,2-Dimethylpropanoic acid at an initial concn of 4.1 ppm exhibited 1.2, 0, 14, and 86% theoretical BOD over respective incubation periods of 2, 5, 10, and 20 days in an aerobic screening study at 25 deg C using soil inoculum(4).

Bioaccumulative potential

The BCF of 2,2-dimethylpropanoic acid was <0.2-1.2 at a concentration of 1 ppb and <2.3 at a concentration of 0.1 ppb using carp (*Cyprinus carpio*) which were exposed over a 6-week period(1). According to a classification scheme(2), these BCFs suggest bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

The Koc of 2,2-dimethylpropanoic acid is estimated as 150(SRC), using a log Kow of 1.48(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that 2,2-dimethylpropanoic acid is expected to have high mobility in soil. The pKa of 2,2-dimethylpropanoic acid is 5.03(4), indicating that this compound will exist partially in 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: UN3261 (For reference only, please check.)

IMDG: UN3261 (For reference only, please check.)

IATA: UN3261 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (For reference only, please check.)

IMDG: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (For reference only, please check.)

IATA: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.)

IMDG: 8 (For reference only, please check.)

IATA: 8 (For reference only, please check.)

Packing group, if applicable

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (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/>

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

