



济南久安酯类化工有限公司

JINAN JIUAN ESTER CHEMICAL CO., LTD
CHEMICAL INDUSTRIAL PARK, ZHANGQIU CITY, SHANDONG, CHINA

SDS-024E-2016

SAFETY DATA SHEET

Betaine Citrate

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier	Betaine Citrate
Chemical name	2-(Trimethylammonio)acetate compound with 2-hydroxypropane-1,2,3-tricarboxylic acid
Company name	Jinan Jiuan Ester Chemical Co., Ltd.
Address	Chemical Industrial Park, Zhangqiu City, Shandong Province, China
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SECTION 2. HAZARDS IDENTIFICATION

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA hazard(s)	Not classified.
Label elements	
Hazard symbol	No symbol.
Signal word	Not available.
Hazard statement	Not available.
Precautionary statement	
Prevention	Not available
Response	Not available
Storage	Not available
Disposal	Not available.
Hazard(s) not otherwise	Not classified.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Non-hazardous components

Chemical name	Molecular formula	M.W.	EINECS No.	CAS No.	Weight percentage
Betaine Citrate	C ₁₁ H ₁₉ NO ₉	309.27	241-648-6	17671-50-0	98-100

SECTION 4. FIRST AID MEASURES

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms /effects, acute and delayed	Gastrointestinal disturbances.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Remove from exposure. Remove contaminated clothing. For treatment advice, seek guidance from an occupational health physician or other licensed health-care provider familiar with workplace chemical exposures. In the United States, the national poison control center phone number is 1-800-222-1222. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen if available. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials. Water. Foam. Dry chemical or CO ₂ .
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	No unusual fire or explosion hazards noted
Special protective equipment and precautions for firefighters	Wear suitable protective equipment.
Fire-fighting equipment/instructions	Use water spray to cool unopened containers. As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Avoid inhalation of dust from the spilled material. Wear appropriate personal protective equipment.
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Methods and materials for containment and cleaning up Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid the generation of dusts during clean-up. For waste disposal, see section 13 of the MSDS. Clean surface thoroughly to remove residual contamination.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Clean equipment and work surfaces with suitable detergent or solvent after use. Remove contaminated clothing, gloves and wash before reuse. Wash hands and other exposed skin thoroughly. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

No exposure standards allocated.

Appropriate engineering controls

Airborne exposure should be controlled primarily by engineering controls such as general dilution ventilation, local exhaust ventilation, or process enclosure.

Respiratory protection

In case of insufficient ventilation: Effective dust mask.

Eye/face protection

Safety glasses with side-shields.

Hand protection

Protective gloves.

Skin and body protection

Wear suitable protective clothing, gloves and eye/face protection

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

White crystalline powder.

Physical state

Solid.

Odour

Odorless.

pH

2-3 (10% solution in water)

Melting point/freezing point

134 - 140 °C

Boiling Point/Range

Not available.

Evaporation rate

Not available.

Flash point

Not available.

Flammability (solid, gas)

Not applicable.

Vapor pressure

Not applicable.

Viscosity

Not applicable.

Solubility in water

Freely soluble.

Solubility (other)

Soluble in alcohol

Decomposition temperature

Not applicable.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	No reactivity hazards known.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Hygroscopic; protect from moisture.
Materials to avoid	Strong bases, strong oxidizing agents.
Hazardous decomposition products	Risk for formation of trimethylamine and hydrochloride acid in hot, strongly alkaline solution.

SECTION 11. TOXICOLOGICAL INFORMATION

Ingestion	Due to lack of data the classification is not possible.
Inhalation	Due to lack of data the classification is not possible.
Skin contact	Due to lack of data the classification is not possible.
Eye contact	Due to lack of data the classification is not possible.
Symptoms related to the physical, chemical, and toxicological characteristics	Nausea. Diarrhea.
Delayed and immediate effects	Cerebral edema. Hypermethioninemia.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	No ecotoxicity data noted for the ingredient(s).
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	Not available.
Mobility in soil	Not available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal instructions	Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.
Local disposal regulations	Not available.
Hazardous waste code	Not available.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

SECTION 14. TRANSPORTATION INFORMATION

DOT	Not regulated as a hazardous material by DOT.
IATA	Not regulated as a dangerous good.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

SECTION 15. REGULATORY INFORMATION

European/International Regulations:

Hazard Symbols: XI, XN.
Risk Phrases: R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R36/37/38 Irritating to the eyes, skin and the respiratory system.
Safety Phrases: S 24/25 Avoid contact with skin and eyes.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S 36 Wear suitable protective clothing.
S 39 Wear eye/face protection.

WGK (Water Danger/Protection): 3

US federal regulations CERCLA/SARA Hazardous Substances - Not applicable.
All components are on the U.S. EPA TSCA Inventory List.

Other federal regulations

Safe Drinking Water Act (SDWA): Not regulated.
Food and Drug Administration (FDA): Not regulated.
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

SECTION 16. OTHER INFORMATION

References: Not available

Other Special Considerations: Not available

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Jinan Jiuan Ester Chemical Co., Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Jinan Jiuan Ester Chemical Co., Ltd. has been advised of the possibility of such damages.

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