Material Safety Data Sheet

MUCIC ACID Galactaric acid (RXSOL-60-6605-016)

1. Product and Company Identifaction

Product Name	Mucic acid GALACTARIC ACID
Part Number	RXSOL-60-6605-016

Company Details:

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

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Email	mail@rxmarine.com
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2. Composition / informationon ingredients

Chemical Name	CAS-No	EC NO.	Weight %
Mocic acid	526-99-8	208-404-0	98

3. Hazards Identification

Hazard Statements	None identified
P280 Wear protective gloves.P305 + P351 + P338	Wear eye protection/ face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Precautionary statements - response	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuerinsing.
Supplemental Hazard Statements	None
Other hazards	This substance/mixture contains no components considered to be either persistent,bioaccumulative and bioaccumulative and toxic (PBT),or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Lachrymator. SECTION 3: Composition/information on ingredients 3.1 Substances Synonyms : n-Amyl alcohol Pentyl alcohol

4. First Aid Measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes
Inhalation	Remove from exposure, lie down. Remove to fresh air.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. If possible drink milk afterwards
Notes to Physician	Treat symptomatically
If swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects, both acute and delaye	No information available.
Indication of any immediate medical attention and special treatment needed	No data available

5. Fire-fighting Measures

Suitable Extinguishing Media	Water spray. Carbon dioxide (CO 2). Dry chemical. Alcohol resistant foam.
Flammability	May be combustible at high temperature.
Flash Point	No information available.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given
Special hazards arising from the substance or mixture	Keep product and empty container away from heat and sources of ignition
Further information	Use water spray to cool unopened containers..
Hazardous combustion products	Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO2).
Advice for firefighters	Wear self-contained breathing apparatus for firefighting if necessary.
	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full
Protective Equipment	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.
Specific Hazards Arising from the Chemical	Has a fire-promoting effect due to the release of oxygen. Ambient fire may liberate hazardous vapours.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Use personal protective equipment as required
Spillage	Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas dike if needed. Eliminate all ignition sources. Call for assistance on disposal.
Personal Protection	Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8.
Enviromental Precaution	See Section 12 for additional Ecological Information.
Methods and materials for containment and cleaning	Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Advice on safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.For precautions see section 2.2.
Advice on protection against fire and explosion	Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge
Hygiene measures	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions

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 in cool place. Keep container tightly closed in opened must be carefully resealed and kept upright to Storage class (TRGS 510): Flammable liquids.
Storage conditions	Tightly closed. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons. Light sensitive. Moisture sensitive.
Storage conditions	Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed
Storage class	Storage class (TRGS 510): 13: Non Combustible Solids
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
Handling	Avoid contact with skin and eyes. Avoid contact with skin and clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Avoid breathing vapors or mists. Do not ingest. If swallowed then seek immediate medical assistance. Wash thoroughly after handling
Advice on general occupational hygiene	Advice on safe handling Observe label precautions. Change contaminated clothing. Wash hands after working with substance.

8. Exposure controls and personal protection

Occupational Exposure limit values	This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies.
Biological limit values	No data available
Exposure controls	Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the riskelimination area
Engineering Control	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday at the end of workday. Page
Eye/face protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Body Protection	Wear appropriate protective gloves and clothing to prevent skin exposure. type of protective equipment must be selected type of protective equipment must be selected according to the concentration and amount of the
Skin protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices Wash and dry hands contaminated gloves after use in accordance with applicable laws and good laboratory
Respiratory protection	No protective equipment is needed under normal use conditions.
Other Protection Measure	None under normal use conditions
Contro of environmental exposure	Prevent further leakage or spillage if safe to do so. Do not let product enter drains
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.
Thermal hazards	No data available



Gloves



Suit

9. Physical and chemical properties

Physical state	Powder Solid
Appearance	Beige
Colour	Colourless
Odour	Odorless
Odor Threshold	No data available
pH	No information available
Melting Point	230 °C / 446 °F
Initial boiling point and boiling range	No information available
Boiling Point	No data available
Evaporation Rate	Not Applicable
Flammability (solid, gas)	No data available
Explosive limits	No Data Available
Upper/lower flammability or explosive limits	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Vapour pressure	No Data Available
Density	No data available
Vapour Density	No Data Available
Specific Gravity	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 10 %(V) Lower explosion limit: 1.2 %(V)
Vapour density	3.04 - (Air = 1.0)
Vapour pressure	1.5 mmHg at 20 °C
Partition coefficient	No data available
Auto-ignition emperature	300 °C
Explosive properties	None
Solubility	DMSO (Slightly), Water (Slightly)
Ignition temperature	No information available.
Molecular Weight	210.14
Molecular Formula	C6 H10 O8
Particle characteristics	No data available

10. Stability and reactivity

Reactivity	None known, based on information available
Stability	Stable under normal conditions.
Possibility of hazardous reactions	No data available
Conditions to avoid	Incompatible products
Incompatible materials	Strong oxidizing agents, Alkali metals, Strong acids, Halides, Aldehydes
Hazardous Polymerization	Hazardous decomposition products formed under fire conditions - Carbon oxides In the event of fire: see section 5

11. Toxicological information

Acute toxicity	No acute toxicity information is available for this product
Skin corrosion/irritation	Skin - Rabbit(Pentan-1-ol)Result: Skin irritation - 24 h

Serious eye damage/eye irritation	Eyes - In vitro study(Pentan-1-ol) Result: Irritating to eyes.
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.
Respiratory or skin sensitization	Did not cause sensitisation on laboratory animals.(Pentan-1-ol)
Serious eye damage/eye irritation	No data available
Rout Of Entry	Inhalation. Ingestion.
Toxicity to Animal	WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE Acute oral toxicity (LD50): 689 mg/kg [Rat].
Toxic Effects on Human	May cause damage to the following organs: upper respiratory tract. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant, sensitizer), of ingestion, of inhalation (lung irritant, lung sensitizer).
Germ cell mutagenicity	Ames test(Pentan-1-ol) Salmonella typhimurium Result: negative
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Special Remarks on other Toxi Effects on Humans:	Acute Potential Health Effects: Skin: Causes skin irritation. May cause skin sensitization, an allergic reation, which becomes evident upon re-exposure to this material. Eyes: Causes eye irritation. Ingestion: Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, and diarrhea. May be harmful if swallowed. Inhalation: Causes respiratory tract irritation. May cause chemical pneumonitis and pulmonary edema, inflammation, edema of bronchi and larynx. Chronic Potential Health Effects: Repeated or prolonged skin exposure may cause allergic reactions in sensitive individuals. Repeated or prolonged exposure by inhalation may affect respiration and metabolism.
Additional Information	Endocrine disrupting properties
Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. RTECS: OD2800000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.
Endocrine disrupting properties	No information available

12. Ecological information

Persistence and degradability	Soluble in water Persistence is unlikely based on information available
Toxicity	Toxicity to fish: no data available Toxicity to daphnia and other aquatic invertebrates: no data available Toxicity to algae: no data available Toxicity to microorganisms: no data available
Bioaccumulative potential	No information available
Toxicity to fish	static test LC50 - Danio rerio (zebra fish) - 530 mg/l - 96 h(Pentan-1-ol)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 341.21 mg/l - 48 h(Pentan-1-ol)
Toxicity to algae	static test ErC50 - SELENASTRUM - > 998 mg/l - 72 h (OECD Test Guideline 201)
Eco Toxicity	Not Available
COD and BOD 5	Not Available
Products Biodegradation:	Aerobic - Exposure time 28 d(Pentan-1-ol) Result: 80 - 90 % - Readily biodegradable
Mobility in soil	Will likely be mobile in the environment due to its water solubility
Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher
Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other adverse effects	No data available

13. Disposal considerations

Waste Disposal Methods	Chemical waste generators must determine whether a discarded chemical is classified as aChemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and.

14. Transport information

DOT	Not regulated
TDG	Not regulated
IATA	Not regulated
MDG/IMO	Not regulated

15. Regulatory information

SARA 313	Not applicable
SARA 311/312 Hazard Categories	See section 2 for more information
CWA (Clean Water Act)	Not applicable
Clean Air Act	Not applicable
OSHA - Occupational Safety and Health Administration	Not applicable
CERCLA	Not applicable
California Proposition 65	This product does not contain any Proposition 65 chemicals.
U.S. State Right-to-Know Regulations	Not applicable
Reportable Quantity (RQ):	Not applicable
DOT Marine Pollutant	Not applicable
DOT Severe Marine Pollutant	Not applicable
U.S. Department of Homeland Security	This product does not contain any DHS chemicals
Mexico - Grade	No information available

16. Other information

Other Information	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 weassume 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 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 Rx Marine International has been advised of the possibility of such damages