

SAFETY DATA SHEET

091-GHS

Kathene

Preparation Date : No data available

Revision Date: 22-Jul-2016

Revision Number: 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name Kathene

Other means of identification

Synonyms Lithium Chloride Brine with Molybdate Inhibitor
Chemical Family Aqueous Inorganic Salt Solution
CAS-No Mixture
Formula LiCl/H₂O and Li₂MoO₄

Recommended use of the chemical and restrictions on use

General function Used for a variety of industrial and research applications. Dehumidification Media.
Uses advised against No information available

Details of the supplier of the safety data sheet

Company Albemarle Corporation
 451 Florida Street
 Baton Rouge, LA 70801

 Rockwood Lithium
 348 Holiday Inn Drive
 Kings Mountain, NC 28086

For Non-Emergency 704-739-2501 (8AM-5PM M-Th; 8AM-12PM Fri)

'Competent Body for SDS' Department of product safety
 productsafety@rockwoodlithium.com

Emergency telephone number

Emergency Telephone Numbers In case of emergency, call Albemarle emergency response at +1 225 344 7147

2. HAZARDS IDENTIFICATION

Classification

Acute Toxicity - Oral	Category 4
Skin Corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

Label elements

Emergency Overview

Warning

Hazard Statements

Harmful if swallowed
 Causes skin irritation
 Causes serious eye irritation



Physical state Liquid

Color Clear. Colorless.

Odor Odorless.

Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing/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
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash before reuse
 IF INHALED: Move to fresh air.
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell Rinse mouth

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

1% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms

Lithium Chloride Brine with Molybdate Inhibitor.

Component	CAS-No	Weight %
Lithium Chloride	7447-41-8	31-40
Calcium chloride	10043-52-4	<1

Note: The exact concentrations of the above listed chemicals are being withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General Advice

First aid responders should pay attention to self-protection and use the recommended protective clothing. Move out of dangerous area. Take off contaminated clothing and shoes immediately.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice.

Skin contact	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Seek immediate medical attention/advice. Wash clothing before reuse.
Inhalation	Not expected to be a primary route of exposure. If inhaled, move person to fresh air.
Ingestion	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms	Irritating to eyes and skin. Ingestion of Lithium Chloride may cause rash, ringing in the ears, nausea, vomiting, diarrhea, difficulty speaking, drowsiness, twitching, visual disturbances, and coma.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Immediate medical attention is required.
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5. FIRE-FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media	The product is not flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

Combustion/explosion hazards	When involved in a fire, Lithium Chloride may decompose and produce irritating fumes and toxic gases.
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Hazardous Combustion Products	Lithium compounds. Hydrogen chloride. Molybdenum compounds.
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Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Protective Equipment and Precautions for Firefighters

Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Wear suitable protective equipment Do not breathe fumes/vapors. Keep people away from and upwind of spill/leak.
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For emergency responders Use personal protective equipment as required.

Environmental Precautions

Environmental precautions	No special environmental precautions required. Prevent product from entering drains.
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Methods and material for containment and cleaning up

Methods for Containment	Contain any spill with dikes or absorbents to prevent migration and entry into sewers or streams. Prevent further leakage or spillage if safe to do so.
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Methods for Cleaning up	Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Take up small spills with dry chemical absorbent. Large spills may be taken up with pump or vacuum and finished off with dry chemical absorbent. May require excavation of contaminated soil.
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7. HANDLING AND STORAGE

Precautions for safe handling**Handling**

Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Mechanical ventilation is recommended. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities**Storage**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Keep away from heat. Keep away from incompatible materials.

Incompatible Materials

Avoid strong acids and oxidizers. Reactive interhalogens (e.g. bromine trifluoride). Lithium chloride can slowly corrode steel, certain types of stainless steel, iron alloys, nickel alloys and other metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

Component	CAS-No	ACGIH TLV (TWA)	OSHA PEL (TWA)	NIOSH IDLH
Lithium Chloride	7447-41-8	-	-	-
Calcium chloride	10043-52-4	-	-	-

Component	CAS-No	Alberta	British Columbia	Ontario	Quebec
Lithium Chloride	7447-41-8	-	-	-	-
Calcium chloride	10043-52-4	-	-	TWA: 5 mg/m ³	-

Appropriate engineering controls**Engineering Controls**

Showers.
Eyewash stations.
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/face Protection**

Tightly fitting safety goggles.

Skin Protection

If skin contact or contamination of clothing is likely, protective clothing should be worn.

Hand protection

Gloves resistant to chemical permeation.

Respiratory protection

Not an expected route of exposure. None under normal conditions.

General Hygiene Considerations

Take off contaminated clothing and shoes immediately. Avoid contact with skin, eyes and clothing. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before breaks and at the end of workday. Keep away from food, drink and animal feeding stuffs. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Color	Clear. Colorless.
Odor	Odorless.
Odor Threshold	None
Molecular Weight	No information available
pH	8 - 10
Melting point/freezing point	< 0 °C / 32 - °F
Boiling Point/Range	134 °C / 273 - °F

Flash Point	Not applicable.
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	No information available
Vapor Density	No data available
Density	1.26
Solubility(ies)	
Water Solubility	Complete.
Solubility in other solvents	No information available
Partition coefficient :	-2.66 (LiCl)
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Dynamic viscosity	No information available
Explosive Properties	No information available
Oxidizing Properties	No information available

10. STABILITY AND REACTIVITY

Reactivity Hazard	None known.
Stability	Stable.
Hazardous Reactions	May react with strong acids to generate hydrochloric acid and strong oxidizers to generate heat.
Hazardous Polymerization	None under normal processing.
Conditions to Avoid	Protect from frost. Keep away from heat. Exposure to sunlight.
Materials to avoid	Strong acids and oxidizing agents. Reactive interhalogens (e.g. bromine trifluoride). Lithium chloride can slowly corrode steel, certain types of stainless steel, iron alloys, nickel alloys and other metals.
Hazardous decomposition products	Thermal decomposition of this product includes hydrogen chloride and lithium and molybdenum compounds. Reaction with strong acids generated hydrochloric acid.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Not an expected route of exposure.
Eye contact	Yes.
Skin contact	Yes.
Ingestion	Yes. Harmful if swallowed. The solution may cause ringing in the ears, nausea, vomiting, diarrhea, difficulty speaking, drowsiness, twitching, visual disturbances, and coma. This product may also irritate or burn the mouth, throat, esophagus, and other tissues of the gastrointestinal tract.

Potential Health Effects

Acute Effects

Skin Corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory irritation : Inhalation of mists or sprays may irritate the nose, throat, and other tissues of the respiratory system.

Sensitization No information available.

STOT - single exposure No information available.

Chronic Effects
Mutagenic Effects No information available.

Carcinogenicity There are no known carcinogenic chemicals in this product.

Component	CAS-No	ACGIH Carcinogens	IARC	NTP	OSHA Regulated Carcinogens
Lithium Chloride	7447-41-8	-	-	-	-
Calcium chloride	10043-52-4	-	-	-	-

Reproductive Effects None known.

STOT - repeated exposure No information available.

Chronic Effects None known.

Other Adverse Effects Prolonged or repeated skin exposures can lead to dermatitis (dry, red skin). Pre-existing respiratory, skin, central nervous system, and kidney conditions can be aggravated by overexposure to this product. Persons with significant cardiovascular or renal disease, sodium and water imbalance, and pre-existing hypothyroidism may also be at increased risk. Alertness may be impaired.

Aspiration hazard No information available.

Numerical measures of toxicity

Product Information

Unknown Acute Toxicity 1% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 1365 mg/kg

ATEmix (dermal) 6418 mg/kg

Component Information

Component	Rat Oral LD50:	Rabbit Dermal LD50:	Rat Dermal LD50 :	Rat Inhalation LC50:
Lithium Chloride 7447-41-8	526 mg/kg	-	> 2000mg/kg bw (24h)	-
Calcium chloride 10043-52-4	1000 mg/kg	2630 mg/kg		-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Algae EC50/72h :	Freshwater Fish LC50/96h :	Water Flea EC50/48h :
Lithium Chloride (CAS #: 7447-41-8)	> 400 mg/l	158 mg/l	249 mg/l
Calcium chloride (CAS #: 10043-52-4)	-	10650: 96 h Lepomis macrochirus mg/L LC50 static	2400: 48 h Daphnia magna mg/L LC50

Persistence/Degradability Not applicable. Inorganic substance.

Bioaccumulation/ Accumulation Not likely to bioaccumulate.

Mobility in Environmental Media No information available.

Component	Partition coefficient :
Lithium Chloride 7447-41-8	-2.66

Other adverse effects Releasing of large quantities of Lithium Chloride can be detrimental to an aquatic environment, by altering the salinity of a body of water.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Waste Disposal Method Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT
Proper Shipping Name NOT REGULATED FOR TRANSPORTATION
Hazard Class Not regulated
UN No. Not regulated
Packing Group Not regulated
Description Not regulated

TDG Not regulated

IMDG/IMO
IMO Class Not regulated
Packing Group Not regulated
UN-No Not regulated
IMO Labelling and Marking Not regulated
Proper Shipping Name Not regulated
EmS Not regulated
Marpol - Annex II Not regulated
Transport Description Not regulated

IATA/ICAO
IATA/ICAO Class Not regulated
Packing Group Not regulated
UN-No Not regulated
IATA/ICAO Labelling/Marking Not regulated
Passenger Aircraft Not regulated
Cargo aircraft only Not regulated
Proper shipping name Not regulated
Transport Description Not regulated

15. REGULATORY INFORMATION											
International Inventories	TSCA	DSL	NDSL	AICS	EINECS	ENCS	KECL	PICCS	IECSC	NZIoC	TCSI
Kathene	X	-	-	-	X	X	X	X	X	-	X

(X) Complies (-) Does not Comply

SARA 313
 Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization
Acute Health Hazard Yes

Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Reportable and Threshold Planning Quantities

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

State Right-to-Know

No components subject to "Right-To-Know" legislation in the following States; California, Massachusetts, New Jersey, and Pennsylvania.

16. OTHER INFORMATION

NFPA	Health 2	Flammability 0	Instability 0	Physical Hazards 0
HMIS	Health 2	Flammability 0	Physical Hazards 0	

Prepared By Health & Environment Department Albemarle Corporation

FOR ADDITIONAL NONEMERGENCY PRODUCT INFORMATION, CONTACT:

HEALTH AND ENVIRONMENT DEPARTMENT
 ALBEMARLE CORPORATION
 451 FLORIDA ST.
 BATON ROUGE, LA. 70801
 (800) 535-3030

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End of Safety Data Sheet