Material Safety Data Sheets

Revision 2

1. IDENTIFICATION

Product Name	Lithium chloride
Other Names	Lithiumchloride; lithium,chloride
Uses	No Data Available
Chemical Family	No Data Available
Chemical Formula	ClLi
Chemical Name	No Data Available
Product Description	No Data Available
Company	**Arman sina.co**
Contact Information	info@armansina.com **www.armansina.com**

2. HAZARD IDENTIFICATION

Hazard Categories

Acute toxicity, Oral (Category 4), H302
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319

Signal Word

Warning

Hazard Statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
Precautionary statement(s)	
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P501	Dispose of contents/ container to an approved waste disposal

Symbol

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Lithium chloride	ClLi	7447-41-8	<= 100 %

4. FIRST AID MEASURES

Swallowed	After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.
Eye	After eye contact: rinse out with plenty of water. Remove contact lenses
Skin	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.
Inhaled	After inhalation: fresh air.
Advice to Doctor	Consult a doctor in case of discomfort showing the SDS for the product.

5. FIRE FIGHTING MEASURES

General Measures	Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Flammability Conditions	No Data Available
Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Fire and Explosion Hazard	Ambient fire may liberate hazardous vapours.
Hazardous Products of Combustion	Hydrogen chloride gas Lithium oxides Not combustible. Ambient fire may liberate hazardous vapours.
Special Fire Fighting Instructions	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Personal Protective Equipment	In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	No Data Available
Clean Up Procedures	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
Containment	No Data Available
Decontamination	No Data Available
Environmental Precautionary Measures	Do not let product enter drains.
Evacuation Criteria	No Data Available
Personal Precautionary Measures.	Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

7. HANDLING AND STORAGE

Handling	Avoid contact with skin and eyes. Avoid formation of dust and aerosols For precautions see section 2.2.
Storage	Tightly closed. Dry. hygroscopic
Container	Tightly closed. Dry.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General

Contains no substances with occupational exposure limit values..

Exposure Limits

No Data Available

Biological Limits

No Data Available

Engineering Measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal Protection Equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

Recommended Filter type: Filter type P2
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Special Hazards Precaustions

No Data Available

Work Hygienic Practices

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	solid
Appearance	crystalline
Odour	No Data Available
Colour	colorless
pH	6 at 50 g/l at 20 °C (68 °F)
Vapour Pressure	1.33 hPa at 547 °C (1017 °F)
Relative Vapour Density	No Data Available
Boiling Point	1,360 °C 2,480 °F at 1,013 hPa
Melting Point	605 °C (1121 °F) - lit
Freezing Point	No Data Available
Solubility	In water: 569 g/l at 20 °C (68 °F)
Specific Gravity	2.07 g/cm3 at 20 °C (68 °F)
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	42.39 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No Data Available
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	The product is not flammable.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	No information available.
Reactions That Release Gases or Vapours	No information available.
Release of Invisible Flammable Vapours and Gases	No information available. No information available.

10. STABILITY AND REACTIVITY

General Information	Possibility of hazardous reactions Risk of explosion with: Exothermic reaction with: Alkali metals halogen-halogen compounds Violent reactions possible with: Strong acids
Chemical Stability	The product is chemically stable under standard ambient conditions (room temperature) .
Conditions to Avoid	Exposure to moisture. no information available
Materials to Avoid	Strong acids, Strong oxidizing agents, Bromine trifluoride, Corrodes steel., Stainless steel, Iron, Nickel
Hazardous Decomposition Products	In the event of fire: see section 5
Hazardous Polymerisation	No Data Available

11. TOXICOLOGICAL INFORMATION

General Information

No Data Available

Acute

LD50 Oral - Rat - male - 526 mg/kg
Remarks: (ECHA)
LC50 Inhalation - Rat - male and female - 4 h - > 5.57 mg/l - dust/mist

(OECD Test Guideline 403)
LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)
No data available

Skin corrosion/irritation
Skin - Rabbit
Result: Severe skin irritation - 24 h
Remarks: (RTECS)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitization
Buehler Test - Guinea pig
Result: Not a skin sensitizer.
(OECD Test Guideline 406)

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Lithium hydroxideTest Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Lithium hydroxide monohydrateCarcinogenicity
No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity

Toxicity to fish	static test LC50 - Oncorhynchus mykiss (rainbow trout) - 158 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 249 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 400 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - activated sludge - 320.05 mg/l - 3 h (OECD Test Guideline 209) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Lithium hydroxide
Toxicity to fish(Chronic toxicity)	semi-static test NOEC - Danio rerio (zebra fish) - 18 mg/l - 34 d (OECD Test Guideline 210)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test EC50 - Daphnia magna (Water flea) - > 10.4 mg/l - 21 d (OECD Test Guideline 211)

Persistence/Degradability The methods for determining the biological degradability are not applicable to inorganic substances.

Mobility No Data Available

Environmental Fate No Data Available

Bioaccumulation Potential No Data Available

Environmental Impact No Data Available

13. DISPOSAL CONSIDERATIONS

General Information

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Special Precautions for Land Fill No Data Available

14. TRANSPORT INFORMATION

Land Transport

Proper Shipping Name	***Lithium Chloride***
Class	No Data Available
Subsidiary Risk(s)	No Data Available
EPG	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Sea Transport

Proper Shipping Name	***Lithium Chloride***
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available

Marine Pollutant	No Data Available

Air Transport

Proper Shipping Name	***Lithium Chloride***
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

15. OTHER INFORMATION

Revision 2

Key/Legend

< Less Than
> Greater Than
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm² Square Centimetres
CO2 Carbon Dioxide
COD Chemical Oxygen Demand
deg C (° C) Degrees Celcius
deg F (° F) Degrees Farenheit
g Grams
g/cm³ Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH2O Inch of Water
K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or L Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH2O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight