Lithium Thionyl Chloride Metal Batteries with Gallium Electrolyte

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Date of Issue: 11/13/2024 Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Lithium Thionyl Chloride Metal Batteries with Gallium Electrolyte

Product Code: No other identifiers

1.2. Intended Use of the Product

Use of the Substance/Mixture: Lithium-based battery product

1.3. Name, Address, and Telephone of the Responsible Party

Company

Engineered Power
20, 3103 - 14th Avenue N.E. Calgary
Alberta, Canada T2A 7N6
Telephone: (403) 235-2584

1.4. Emergency Telephone Number

Emergency Number : VelocityEHS
(800)255-3924 (North America)
+1 (813)248-0585 (International)

SECTION 2: HAZARDS IDENTIFICATION

Note: Leaking cells pose health hazards: see Sections 4 and 11. Intentional abuse of cells or batteries increases the risk of harm or damage to the product, to the user, and to surrounding materials and personnel. Do not attempt to open sealed cells or batteries. Do not intentionally short-circuit cells or batteries. Do not expose these products to temperatures exceeding the maximum manufacturers rating. Do not dispose of cells/batteries in landfills. Please follow all manufacturer guidelines in the use, storage, and disposal of these products. Consult manufacturer in cases of questions involving specific product usage.

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Substances and mixtures which in contact with water emit flammable gases Category 1	H260
Corrosive to metals Category 1	H290
Acute toxicity (oral) Category 4	H302
Acute toxicity (inhalation:dust,mist) Category 4	H332
Skin corrosion/irritation Category 1A	H314
Serious eye damage/eye irritation Category 1	H318
Specific target organ toxicity (single exposure) Category 2	H371
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
Specific target organ toxicity (repeated exposure) Category 2	H373

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :



GHS02 GHS05 GHS07 GHS08

Signal Word (GHS-US/CA) : Danger

Hazard Statements (GHS-US/CA) : H260 - In contact with water releases flammable gases which may ignite spontaneously.
H290 - May be corrosive to metals.
H302+H332 - Harmful if swallowed or if inhaled.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H335 - May cause respiratory irritation.
H371 - May cause damage to organs.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements (GHS-US/CA) : P223 - Do not allow contact with water.
P231+P232 - Handle under inert gas. Protect from moisture.
P234 - Keep only in original container.

P260 - Do not breathe vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311 - If exposed or concerned: Call a poison center or doctor.
P310 - Immediately call a poison center or doctor.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P330 - Rinse mouth.
P335+P334 - Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
P390 - Absorb spillage to prevent material-damage.
P402+P404 - Store in a dry place. Store in a closed container.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P406 - Store in corrosive resistant container with a resistant inner liner.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

Supplemental Information : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Synonyms	Product Identifier	%	GHS US classification
Thionyl chloride	Thionyl dichloride Sulphurous oxychloride Sulfurous oxychloride Sulphinyl dichloride	(CAS-No.) 7719-09-7	40 – 60	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1A, H314 STOT SE 3, H335 Eye Dam. 1, H318
Gallium trichloride	Gallium chloride (GaCl3) Gallium(III) chloride Gallium chloride	(CAS-No.) 13450-90-3	10 – 20	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318
Lithium chloride	Lithium chloride (LiCl)	(CAS-No.) 7447-41-8	5 – 10	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 2, H371 STOT RE 2, H373

Lithium	Lithium, metal Lithium metal Metallic lithium	(CAS-No.) 7439-93-2	2.5 – 5	Water-react. 1, H260 Skin Corr. 1B, H314 Eye Dam. 1, H318 Combustible Dust

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

First-aid Measures General: The following first aid measures apply in case of exposure to the interior battery components, if the battery is damaged and exposure occurs. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: For exposure to battery contents: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.

First-aid Measures After Skin Contact: For exposure to battery contents: Immediately remove contaminated clothing. Immediately flush skin with plenty of water for at least 30 minutes. Get immediate medical advice/attention.

First-aid Measures After Eye Contact: For exposure to battery contents: Immediately rinse with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid Measures After Ingestion: For exposure to battery contents: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: Exposure to battery contents may result in the following: May cause respiratory irritation. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage.

Symptoms/Injuries After Inhalation: Exposure to the internal contents of the battery may result in: Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness. May be corrosive to the respiratory tract.

Symptoms/Injuries After Skin Contact: Exposure to the internal contents of the battery may result in: Causes severe irritation which will progress to chemical burns.

Symptoms/Injuries After Eye Contact: Exposure to the internal contents of the battery may result in: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: Exposure to the internal contents of the battery may result in: This material is harmful orally and can cause adverse health effects or death in significant amounts. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: Exposure to the internal contents of the battery may result in: May cause damage to organs through prolonged or repeated exposure.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use Class D fire extinguisher.

Unsuitable Extinguishing Media: Lithium metal battery fires will react with all other extinguishing agents other than a Class D extinguisher. Do not use, water spray, fog, carbon dioxide, halogented, dry chemical, or foam extinguishing agents.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: For exposure to the internal contents of a lithium metal battery: Vigorously reacts with water to produce flammable gases which may ignite spontaneously and cause a fire or explosion. Vapors from a damaged battery may be flammable.

Explosion Hazard: Battery may rupture/explode when exposed to excessive heat or fire, short circuited, punctured, or crushed.

Reactivity: May be corrosive to metals. Contact with metals may evolve flammable hydrogen gas. Reacts violently with water liberating highly flammable gases.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Chlorine compounds. Corrosive vapors. Gallium oxides. Lithium oxides. Sulfur oxides.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe dust. Use only non-sparking tools. Keep away from heat, sparks, open flames, hot surfaces. – No smoking. Remove ignition sources.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Ventilate area. Use only non-sparking tools. As an immediate precautionary measure, isolate spill or leak area in all directions. Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Use only non-sparking tools. Absorb spillage to prevent material damage. Clean up spills immediately and dispose of waste safely. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Under normal conditions of use this product is considered an article and exposure to the ingredients contained within this product is unlikely. Never disassemble a battery or bypass any safety device. Do not crush, pierce, short (+) and (-) battery terminals with conductive (i.e. metal) goods. Do not directly heat or solder. Do not throw into fire. Do not mix batteries of different types and brands. Do not open or damage enclosure, or battery cell as this could cause a potential exposure and release of hazardous materials.

Precautions for Safe Handling: Since this product is a sealed battery, normal handling hazards are minimal unless the battery is damaged or the internal contents are exposed. If the battery is damaged: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do NOT breathe (dust, vapor, mist, gas). Protect from moisture. Keep away from heat, sparks, open flames, hot surfaces. – No smoking. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed. Avoid creating or spreading dust. Use explosion-proof electrical, ventilating, lighting equipment.

Storage Conditions: Batteries should be separated from other materials and stored in a noncombustible, well ventilated, sprinkler-protected structure with sufficient clearance between walls and battery stacks. Do not store batteries in a manner that allows terminals to short circuit. Do not place batteries near heating equipment, nor expose to direct sunlight for long periods.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Metals. Water, humidity.

Packaging materials: Store in original container or corrosive resistant and/or lined container

7.3. Specific End Use(s)

Lithium-based battery product

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

Thionyl chloride (7719-09-7)		
USA ACGIH	ACGIH OEL Ceiling	0.2 ppm
USA NIOSH	NIOSH REL Ceiling	5 mg/m³
USA NIOSH	NIOSH REL Ceiling	1 ppm
Alberta	OEL C	4.9 mg/m³
Alberta	OEL C	1 ppm
British Columbia	OEL C	1 ppm
Manitoba	OEL C	0.2 ppm
New Brunswick	OEL C	0.2 ppm
Newfoundland & Labrador	OEL C	0.2 ppm

Nova Scotia	OEL C	0.2 ppm
Nunavut	OEL C	1 ppm
Northwest Territories	OEL C	1 ppm
Ontario	OEL C	0.2 ppm
Prince Edward Island	OEL C	0.2 ppm
Québec	Plafond OEL C	4.9 mg/m³
Québec	Plafond OEL C	1 ppm
Saskatchewan	OEL C	1 ppm

8.2. Exposure Controls

Appropriate Engineering Controls : Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when toxic gases may be released. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use explosion-proof equipment.

Personal Protective Equipment : Not required under normal conditions of use. When handling damaged batteries: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection. Face shield.



Materials for Protective Clothing : Chemically resistant materials and fabrics. Wear fire/flame resistant/retardant clothing. Corrosion-proof clothing.

Hand Protection : Wear protective gloves.

Eye and Face Protection : Chemical safety goggles and face shield.

Skin and Body Protection : Wear suitable protective clothing.

Respiratory Protection : If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information : When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State : Solid

Appearance : Metal container containing liquid and solid contents

Odor : Normally odorless, leaking devices may emit acrid, sulfurous or ethereal odors.

Odor Threshold : No data available

pH : No data available

Evaporation Rate : No data available

Melting Point : No data available

Freezing Point : No data available

Boiling Point : No data available

Flash Point : No data available

Auto-ignition Temperature : No data available

Decomposition Temperature : No data available

Flammability (solid, gas) : No data available

Vapor Pressure : No data available

Relative Vapor Density at 20°C : No data available

Relative Density : No data available

Solubility : No data available

Partition Coefficient: N-Octanol/Water : No data available

Viscosity : No data available

9.2. Other Information

No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

May be corrosive to metals. Contact with metals may evolve flammable hydrogen gas. Reacts violently with water liberating highly flammable gases.

10.2. Chemical Stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions

In contact with water releases flammable gases which may ignite spontaneously.

10.4. Conditions to Avoid

Keep away from moisture, water, ignition sources, direct sunlight, extremely high or low temperatures, incompatible materials. Sparks, heat, open flame and other sources of ignition. Do not heat, expose to fire, disassemble, short circuit, immerse in water, or abuse batteries.

10.5. Incompatible Materials

Strong acids, strong bases, strong oxidizers. Metals. Water, humidity.

10.6. Hazardous Decomposition Products

None expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

*****Hazards only apply to leaking or damaged cells.*****

11.1. Information on Toxicological Effects - Product

Likely routes of exposure: From exposure to battery contents: Dermal, Eye Contact, Inhalation, Oral.

Acute Toxicity (Oral): Harmful if swallowed.

Acute Toxicity (Dermal): Not classified.

Acute Toxicity (Inhalation): Harmful if inhaled.

Lithium Thionyl Chloride Metal Batteries with Gallium Electrolyte	
ATE (Oral)	407.35 mg/kg body weight
ATE (Inhalation)	4.53 mg/l/4h

Skin Corrosion/Irritation: Causes severe skin burns.

Serious Eye Damage/Irritation: Causes serious eye damage.

Respiratory or Skin Sensitization: Not classified.

Germ Cell Mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (Single Exposure): May cause damage to organs. May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard: Not classified.

Symptoms/Injuries After Inhalation: Exposure to the internal contents of the battery may result in: Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness. May be corrosive to the respiratory tract.

Symptoms/Injuries After Skin Contact: Exposure to the internal contents of the battery may result in: Causes severe irritation which will progress to chemical burns.

Symptoms/Injuries After Eye Contact: Exposure to the internal contents of the battery may result in: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: Exposure to the internal contents of the battery may result in: This material is harmful orally and can cause adverse health effects or death in significant amounts. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: Exposure to the internal contents of the battery may result in: . May cause damage to organs through prolonged or repeated exposure.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Lithium chloride (7447-41-8)	
LD50 Oral Rat	526 mg/kg (Source: NLM_CIP)
LD50 Dermal Rat	> 2000 mg/kg (No deaths)
LC50 Inhalation Rat	> 5.57 mg/l/4h

Gallium trichloride (13450-90-3)	
LD50 Oral Rat	4700 mg/kg (Source: NLM_HSDB)

Thionyl chloride (7719-09-7)	
LD50 Oral Rat	270 mg/kg (Source: JAPAN_GHS)
LC50 Inhalation Rat	2.717 mg/l/4h
LC50 Inhalation Rat	1.21 mg/l/4h

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Not classified.

Lithium chloride (7447-41-8)	
LC50 Fish	158 mg/kg (Exposure time: 96 h - Species: Oncorhynchus mykiss [Static])
EC50 Crustacea	249 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
ErC50 Algae	> 400 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus [Static])
NOEC Chronic Fish	59.4 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
NOEC Chronic Crustacea	63.4 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
NOEC Chronic Algae	25 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus [Static])

12.2. Persistence and Degradability

Lithium Thionyl Chloride Metal Batteries with Gallium Electrolyte	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Lithium Thionyl Chloride Metal Batteries with Gallium Electrolyte	
Bioaccumulative Potential	Not established.

Lithium chloride (7447-41-8)	
BCF Fish	No bioaccumulation.
Partition coefficient n-octanol/water (Log Pow)	-2.66

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations. Material should be recycled if possible.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Proper Shipping Name : LITHIUM METAL BATTERIES
Hazard Class : 9
Identification Number : UN3090
Label Codes : 9
ERG Number : 138



14.2. In Accordance with IMDG

Proper Shipping Name : LITHIUM METAL BATTERIES
Hazard Class : 9
Identification Number : UN3090
Label Codes : 9A
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-I



14.3. In Accordance with IATA

Proper Shipping Name : LITHIUM METAL BATTERIES
Hazard Class : 9
Identification Number : UN3090
Label Codes : 9A

ERG Code (IATA) : 12FZ



14.4. In Accordance with TDG

Proper Shipping Name : LITHIUM METAL BATTERIES
Hazard Class : 9
Identification Number : UN3090
Label Codes : 9A



SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Lithium Thionyl Chloride Metal Batteries with Gallium Electrolyte	
SARA Section 311/312 Hazard Classes	Health hazard - Acute toxicity (any route of exposure) Health hazard - Serious eye damage or eye irritation Health hazard - Skin corrosion or Irritation Health hazard - Specific target organ toxicity (single or repeated exposure) Physical hazard - Corrosive to metals Physical hazard - In contact with water emits flammable gas

Lithium chloride (7447-41-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Lithium (7439-93-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Gallium trichloride (13450-90-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Listed on the United States SARA Section 302	
SARA Section 302 Threshold Planning Quantity (TPQ)	500 – 10000 lb

Thionyl chloride (7719-09-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

15.2. US State Regulations

Lithium (7439-93-2)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Gallium trichloride (13450-90-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Thionyl chloride (7719-09-7)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

15.3. Canadian Regulations

Lithium chloride (7447-41-8)
Listed on the Canadian DSL (Domestic Substances List)
Lithium (7439-93-2)
Listed on the Canadian DSL (Domestic Substances List)
Gallium trichloride (13450-90-3)
Listed on the Canadian DSL (Domestic Substances List)
Thionyl chloride (7719-09-7)
Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 11/13/2024

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

H260	In contact with water releases flammable gases which may ignite spontaneously
H290	May be corrosive to metals
H301	Toxic if swallowed
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H371	May cause damage to organs
H373	May cause damage to organs through prolonged or repeated exposure

Glossary of Data Source Abbreviations

ATSDR: Agency for Toxic Substances and Disease Registry (U.S. Department of Health and Human Services)
AU_WES: Australia WES
CHEMVIEW: ChemView (U.S. Environmental Protection Agency)
EC_RAR: European Commission Renewal Assessment Report
EC_SCOEL: European Commission Scientific Committee on Occupational Exposure Limits
ECETOC: European Centre for Ecotoxicology and Toxicology of Chemicals Reports
ECHA_API: European Chemicals Agency API
ECHA_RAC: ECHA Committee for Risk Assessment
EFSA: European Food Safety Authority
EPA: U.S. Environmental Protection Agency
EPA_AEGL: Acute Exposure Guideline Levels (U.S. Environmental Protection Agency)
EPA_FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act Reregistration Eligibility Decision (U.S. Environmental Protection Agency)
EPA_HPV: High Production Volume Chemicals (U.S. Environmental Protection Agency)
EPA_TRED: Risk Assessment for Tolerance Reassessment Eligibility Decision (U.S. Environmental Protection Agency)
EU_CLH: European Union Harmonised Classification and Labelling Proposal
EU_RAR: European Union Risk Assessment Report
FOOD_JOURN: Food Research Journal (1956)
IARC: The International Agency for Research on Cancer
IDLH: National Institute for Occupational Health and Safety Immediately Dangerous to Life or Health Value Profiles
IUCLID: International Uniform Chemical Information Database
JAPAN_GHS: Japan GHS Basis for Classification Data
JP_J-CHECK: Japan J-Check
KR_NIER: South Korea National Institute of Environmental Research Evaluations
NICNAS: Australia National Industrial Chemicals Notification and Assessment Scheme
NIOSH: National Institute for Occupational Health and Safety (U.S. Department of Health and Human Services)
NLM_CIP: National Library of Medicine ChemID plus database
NLM_HSDB: National Library of Medicine Hazardous Substance Data Bank
NLM_PUBMED: National Library of Medicine PubMed database
NTP: National Toxicology Program
NZ_CCID: New Zealand Chemical Classification and Information Database
OECD_EHSP: Environment, Health, and Safety Publication (Organisation for Economic Co-operation and Development)
OECD_SIDS: Screening Information Data Sets (Organisation for Economic Co-operation and Development)
WHO: World Health Organization

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

NA GHS SDS 2015 (Can, US)