



Be Right™

SAFETY DATA SHEET

Issue Date 19-09-2018

Revision Date 26-Jan-2024

Version 1.6

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1. IDENTIFICATION

Product identifier

Product Name MSDS Battery, CR1220, Lithium Perchlorate

Other means of identification

Product Code(s) CR1220MC

Safety data sheet number M02735

UN/ID no UN3090

Recommended use of the chemical and restrictions on use

Recommended Use Battery / Internal Battery Back-up.

Uses advised against None.

Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

Safety Data Sheets are a sub-requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200. This Hazard Communication Standard does not apply to various subcategories including anything defined by OSHA as an "article".

According to OSHA, Article means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

Because all of our batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard.

The battery is hermetically sealed. Thus, the ingredients have no hazard potential, except the battery is violated or dismantled. In case of mistreatment the ingredients are released, a spontaneously flammable gas mixture may be released under certain circumstances (measures according to chapter 4 to 6).

Attention: If batteries are treated wrong the danger of burns or bursts occurs. Batteries must not be heated above 100°C or incinerated. The battery contents must not get in contact with water. If the negative electrode gets in contact with water or humidity hydrogen gas is formed, which may inflame spontaneously.

Substances or mixtures which, in contact with water, emit flammable gases	Category 1
Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

- H260 - In contact with water releases flammable gases which may ignite spontaneously
- H302 - Harmful if swallowed
- H314 - Causes severe skin burns and eye damage
- H332 - Harmful if inhaled
- H360 - May damage fertility or the unborn child
- H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary statements

- P270 - Do not eat, drink or smoke when using this product
- P501 - Dispose of contents/ container to an approved waste disposal plant
- P271 - Use only outdoors or in a well-ventilated area
- P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P280 - Wear protective gloves, protective clothing, eye protection, and face protection
- P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 - Immediately call a POISON CENTER or doctor/physician
- P363 - Wash contaminated clothing before reuse
- P405 - Store locked up
- P201 - Obtain special instructions before use
- P308 + P313 - IF exposed or concerned: Get medical advice/attention
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray
- P223 - Keep away from any possible contact with water, because of violent reaction and possible flash fire
- P231 + P232 - Handle under inert gas. Protect from moisture
- P335 + P334 - Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages
- P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
- P402 + P404 - Store in a dry place. Store in a closed container

Other Hazards Known

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Battery, Manganese Dioxide Lithium (Perchlorate).
Chemical nature Battery.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Manganese oxide (MnO ₂)	1313-13-9	60 - 70%	-
Lithium	7439-93-2	3 - 7%	-
Ethylene glycol dimethyl ether	110-71-4	1 - 5%	-
Perchloric acid, lithium salt	7791-03-9	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous combustion products	May emit acrid smoke and fumes.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
<u>Personal precautions, protective equipment and emergency procedures</u>	
Personal precautions	Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.
Other Information	Refer to protective measures listed in Sections 7 and 8.
<u>Environmental precautions</u>	
Environmental precautions	Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.
<u>Methods and material for containment and cleaning up</u>	
Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.
Reference to other sections	See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid generation of dust.
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Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Manganese oxide (MnO ₂) CAS#: 1313-13-9	TWA: 0.02 mg/m ³ Mn respirable particulate matter TWA: 0.1 mg/m ³ Mn inhalable particulate matter	(vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves. Impervious gloves.

Eye/face protection Face protection shield.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapors/spray.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	Color	Not applicable
Appearance	Battery	Odor threshold	Not applicable
Odor	Not applicable		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	Not applicable	

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pH No data available
Melting point / freezing point No data available
Initial boiling point and boiling range No data available
Evaporation rate Not applicable
Vapor pressure Not applicable
Relative vapor density No data available
Specific gravity - VALUE 1 Not applicable
Partition coefficient No data available
Soil Organic Carbon-Water Partition Coefficient No data available
Autoignition temperature No data available
Decomposition temperature No data available
Dynamic viscosity Not applicable
Kinematic viscosity Not applicable

Solubility(ies)

Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
No information available	No data available	No information available

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

See ingredients information below

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Manganese oxide (MnO ₂)	1313-13-9	No data available	-
Lithium	7439-93-2	No data available	-
Ethylene glycol dimethyl ether	110-71-4	No data available	X
Perchloric acid, lithium salt	7791-03-9	No data available	-

Explosive properties

Upper explosion limit Not applicable
Lower explosion limit No data available

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Flammable properties

Flash point No data available

Flammability Limit in Air

Upper flammability limit: No data available

Lower flammability limit: No data available

Oxidizing properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Reacts violently with water.

Chemical stability

Water reactive chemical. Reacts violently with water.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Possibility of hazardous reactions

Contact with water generates heat. Keep away from any possible contact with water, because of violent reaction and possible flash fire. Do not add water to contents while in a container because of violent reaction and possible flash fire. Do not get water inside containers: a violent reaction may occur.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Exposure to air or moisture over prolonged periods. Excessive heat. Exposure to water.

Incompatible materials

Acids. Bases. Oxidizing agent. Water. Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation

Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Harmful by inhalation.

Eye contact

Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact

Corrosive. Causes severe burns. Avoid contact with skin and clothing.

Ingestion

Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms

Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Acute toxicity

Harmful if swallowed
Harmful if inhaled

Mixture

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Manganese oxide (MnO ₂) (60 - 70%) CAS#: 1313-13-9	Rat LD ₅₀	> 9000 mg/kg	None reported	None reported	LOLI

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Rat LC ₅₀	>= 20 mg/L	4 hours	None reported	CHEMVIEW

Unknown Acute Toxicity

20% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

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

ATE _{mix} (oral)	666.70 mg/kg
ATE _{mix} (dermal)	No information available
ATE _{mix} (inhalation-dust/mist)	2.00 mg/l
ATE _{mix} (inhalation-vapor)	14.10 mg/l
ATE _{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Causes severe burns.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Manganese oxide (MnO ₂) (60 - 70%) CAS#: 1313-13-9	Existing human experience	Human	None reported	None reported	Not corrosive or irritating to skin	IUCLID
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Standard Draize Test	Rabbit	0.5 mL	24 hours	Skin irritant	ECHA

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Manganese oxide (MnO ₂) (60 - 70%) CAS#: 1313-13-9	Existing human experience	Human	None reported	None reported	Not corrosive or irritating to eyes	IUCLID
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Standard Draize Test	Rabbit	0.1 mL	24 hours	Not corrosive or irritating to eyes	ECHA

Respiratory or skin sensitization

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Local Lymph Node Assay	Mouse	Not confirmed to be a skin sensitizer	ECHA

STOT - single exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Rat LD _{Lo}	1000 mg/kg	None reported	None reported	RTECS

Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Rabbit LD _{Lo}	2000 mg/kg	None reported	None reported	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Rat LC _{Lo}	63000 mg/m ³	6 hours	Behavioral Somnolence (general depressed activity) Irritability	RTECS

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Mouse TD _{Lo}	16000 mg/kg	8 days	Chronic Death	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Rat TC _{Lo}	4000 mg/L	14 days	Behavioral Change in psychophysiological tests Lungs, Thorax, or Respiration Other changes Chronic Death	RTECS

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Manganese oxide (MnO ₂)	1313-13-9	-	-	-	-
Lithium	7439-93-2	-	-	-	-
Ethylene glycol dimethyl ether	110-71-4	-	-	-	-
Perchloric acid, lithium salt	7791-03-9	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Mutation in microorganisms	<i>Salmonella typhimurium</i>	0.010 mg/plate	None reported	Negative	ECHA

Mixture invivo Data

No data available.

Substance invivo Data

Test data reported below.

Oral Exposure Route

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Micronucleus test	Mouse	2000 mg/kg	12 weeks	Negative test result for mutagenicity	ECHA

Reproductive toxicity

Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Mixture

No data available.

Ingredient Reproductive Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethylene glycol dimethyl ether (1 - 5%) CAS#: 110-71-4	Rat	660 mg/kg	18 days	Effects on Fertility Post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants) Specific Developmental Abnormalities Musculoskeletal system Homeostasis Effects on Newborn Stillbirth Live birth index (# fetuses per litter measured after birth) Viability index (e.g. # alive at day 4 per # born alive) Growth statistics (e.g. % reduced weight gain)	RTECS

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Manganese oxide (MnO ₂) (60 - 70%) CAS#: 1313-13-9	Mouse TC _{Lo}	0.085 mg/L	17 days	Effects on Newborn Decrease in average pup weight at birth Decreased activity levels	RTECS

Aspiration hazard

Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Based on available data, the classification criteria are not met.

Unknown aquatic toxicity

20% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

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Mixture
No data available.

Mixture
No data available.

Partition coefficient No data available

Mobility

Soil Organic Carbon-Water Partition Coefficient No data available

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number Not applicable

Special instructions for disposal Do NOT incinerate or subject battery to temperatures in excess of 212 degrees fahrenheit. Cells may rupture. Perchlorate Material - special handling may apply. In California, see www.dtsc.ca.gov/hazardouswaste/perchlorate. Lithium- manganese dioxide batteries are not listed as a hazardous waste. Recycle at an approved recycling facility or dispose as ordinary waste.

14. TRANSPORT INFORMATION

DOT

UN/ID no UN3090
Proper shipping name Lithium Battery
Transport hazard class(es) 9
Packing Group II
Emergency Response Guide Number 138

TDG

UN/ID no UN3090
Proper shipping name Lithium Battery
Transport hazard class(es) 9
Packing Group II

IATA

UN number or ID number UN3090
Proper shipping name Lithium Battery
Transport hazard class(es) 9
Packing group II
ERG Code 138

IMDG

UN number or ID number UN3090
Proper shipping name Lithium Battery

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Transport hazard class(es) 9
Packing Group II

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories

TSCA Complies
DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Does not comply
TCSI Complies
AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Manganese oxide (MnO ₂) (CAS #: 1313-13-9)	1.0
Ethylene glycol dimethyl ether (CAS #: 110-71-4)	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

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

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Manganese oxide (MnO ₂) 1313-13-9	X	-	X
Lithium 7439-93-2	X	X	X
Ethylene glycol dimethyl ether 110-71-4	X	X	X

U.S. EPA Label Information

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thresholds
Ethylene glycol dimethyl ether 110-71-4	Declarable Substance (LR)	None reported
Perchloric acid, lithium salt 7791-03-9	Declarable Substance (FA) Prohibited Substance (FA)	0.1 %

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 0	Instability - 0	Physical and chemical properties W
HMIS	Health hazards - 3 - *	Flammability - 0	Physical hazards - 0	Personal protection - X - I

Key or legend to abbreviations and acronyms used in the safety data sheet

- ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)
- ATSDR ATSDR (Agency for Toxic Substances and Disease Registry)
- CCRIS CCRIS (Chemical Carcinogenesis Research Information System)
- CDC CDC (Center for Disease Control)
- CEPA CEPA (Canadian Environmental Protection Agency)
- CICAD CICAD (Concise International Chemical Assessment Documents)
- ECHA ECHA (The European Chemicals Agency)

EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

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Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet