HDI INSTRUMENTS, LLC - UN3090 SDS 2018

SAFETY DATA SHEET UN3090 LITHIUM METAL BATTERIES

HOUSTON, TEXAS USA

REVISION 5.1 7/17/2018
According to Regulation (EC) No 1907/2006 (REACH)

Trade name: LITHIUM THIONYL CHLORIDE BATTERY
Product No: HDIBATTE260DOTAA **Print Date:7/17/2018**

MODEL NO'S 1000B / 2000B / 2000P / 2100 / 2200 / 2400 / M100

Version: 5.1/EN **Revision Date: 7/17/2018**

UN3090

STANDALONE LITHIUM METAL BATTERIES AND BATTERY PACKS

THESE BATTERIES HAVE PASSED UN 38.3 TESTS – TEST RESULTS AVAILABLE UPON REQUEST.

DISTRIBUTED BY:
HDI – HOUSTON DIGITAL INSTRUMENTS
4130 DIRECTORS ROW HOUSTON TEXAS 77092 USA **PHONE 1-713-688-8555**

US DOT HAZARDOUS MATERIALS REGISTRATION
REG # 092017-550-015ZB EXPIRES 6/30/20
HM COMPANY ID: 207584

24 HOUR EMERGENCY RESPONSE PHONE NUMBER
CHEMTREC – PHONE 1-703-741-5970 / 1-800-242-9300
CHEMTREC CONTRACT ID NUMBER 817438

SECTION 1: IDENTIFICATION OF THE SUBSTANCES

1.1 PRODUCT IDENTIFIER: LITITHIUM CHLORIDE BATTERY

Substance – Lithium Thionyl Chloride
Resinlab-EP965LVLX BLACK A
Resinlab-EP965LVLX BLACK B

Product form – Encapsulated

1.2 RECOMMENDED USE

USED AS POWER SUPPLY FOR HDI PRODUCTS: 1000B / 2000B / 2000P / 2100 / 2200 / 2400 / M100

1.3 SUPPLIER

HDI HOUSTON DIGITAL INSTRUMENTS

4130 DIRECTORS ROW HOUSTON TEXAS 77092 USA

PHONE 1-713-688-8555

1.4 EMERGENCY PHONE NUMBER

LOCAL M/F 9AM-5PM 1-713-688-8555

24 HOUR EMERGENCY RESPONSE PHONE NUMBER
CHEMTREC – PHONE 1-703-741-5970 / 1-800-242-9300
CHEMTREC CONTRACT ID NUMBER 817438

Special note: these batteries are exempt articles and are not subject to the OSHA Hazard Communication Regulations. This Safety Data Sheet is supplied for its users as a courtesy without any stated or implied warranty. All information provided is believed to be accurate at the time this document was prepared. This battery is manufactured in such a manner that all components are isolated from outside sources by encapsulation.

SECTION 2: CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

2.1 GHS – US CLASSIFICATION

This is a HIGH energy density SEALED battery containing LITHIUM and THIONYL CHLORIDE. For this reason, improper handling or storage of the battery could lead to – distortion – leakage – over heating – explosion – fire – or generation of irritating and corrosive gases possibly resulting in human injury or damage to equipment and or property. It is the user's responsibility to read and adhere to all safety protocols established by their respective HS departments.

2.2 GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

No applicable labeling required as per OSHA GHS.

2.3 OTHER HAZARDS

Distortion, leakage, overheating, explosion, fire, or generation of irritating and corrosive gases possibly resulting in human injury or damage to equipment and/or property.

2.4 UNKNOWN ACUTE TOXICITY (GHS US)

Decomposition if damaged or in a fire may produce a corrosive gas. Fire Fighters and ER Personnel should wear appropriate PPE.

SECTION 3: SUBSTANCES

3.1 MIXTURES

Name	Product Identification %	GHS-US Classification
Lithium	cas no. 7439-93-2 0<100	Water Reactive 1, H260 Skin Corrosive 1B, H314
Thionyl Chloride	cas no. 7719-09-7 0<100	Acute Tox 4 (oral) H302 Acute Tox 3(inhal) H331 Skin Corrosive 1A, H314 STOT 8E 3, H335
Aluminum Chloride	cas no. 7448-70-0 0<100	Skin Corrosive 1B , H314
Lithium Chloride	cas no. 7447-4108 0<100	Acute Tox 4 (oral) H302 Skin irrit 2, H315

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

General information:

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (Show the label where possible).

Following inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

Following skin contact:

Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.

Following eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Following ingestion:

Rinse mouth. DO NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Symptoms/effects after inhalation:

Not expected to present inhalation hazard under anticipated conditions of normal use. If a battery ruptures, may be harmful or fatal if inhaled in a confined area.

Symptoms/effects after skin contact:

Not expected to present a significant skin hazard under anticipated conditions of normal use. If a battery ruptures, causes sever skin burns.

Symptoms/effects after eye contact:

Not expected to present a significant skin hazard under anticipated conditions of normal use. If a battery ruptures, direct contact with the liquid or exposure to vapors or mists may cause tearing, redness, swelling, corneal damage and irreversible eye damage.

Symptoms/effects after ingestion:

Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If battery ruptures, swallowing is harmful. Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically, note for doctor and/or ER personnel.

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

In case of fire where lithium batteries are present, apply a smothering agent such as LITH-X, SAND, DRY GROUND, DOLOMITE, or SODA ASH.

Unsuitable extinguishing media: Do not use water. Do not short circuit, recharge, over discharge (discharge below 0.0 Volts), puncture, crush, or expose to temperatures above 150°C. Cell may leak, vent, or explode.

5.2 SPECIAL HAZARDS ARISING FROM THE CHEMICAL(S)

Fire hazard: Battery may rupture due to pressure build-up when exposed to excessive heat and may be result in the release of corrosive materials, hazardous combustion products, sulfur oxides, hydrogen chloride, and/or corrosive vapors.

Explosion hazard: battery may burst and release hazardous decomposition products when exposed to fire situation.

Reactivity: Stable under normal conditions of use.

5.3 ADVICE FOR FIRE-FIGHTERS

Exercise caution when fighting any chemical fire. Prevent firefighting water from entering the environment.

Protective equipment for firefighters: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES FOR NON-EMERGENCY PERSONNEL

Protective equipment is for emergency responders.

Supply the clean-up crew with proper protection and information, emergency procedures, and ventilate area.

6.2 ENVIRONMENTAL PRECAUTIONS

Prevent entry to sewers and public waters.

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANUP

For cleaning up on land: sweep or shovel into suitable containers, minimize generation of dust. Store away from other materials.

6.4 REFERENCE TO OTHER SECTIONS

See Section 8: Exposure Controls/Personal Protection. For disposal of residues refer to Section 13: Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1 PRECATIONS FOR SAFE HANDLING

Additional hazards when processed: keep away from any possible contact with water, because of violent reaction and possible flash fire.

Protective measures:

Advice on safe handling: do not open the battery system. Do not crush or pierce the cells. Do not submit to excessive mechanical stress. Do not mix batteries of different types or mix new and old ones together. Do not expose the unit to water or condensation. Do not directly heat, solder or throw into fire. Such unsuitable use can cause leakage or spout vaporized electrolyte fumes and may cause fire or explosion.

Advice on general occupational hygiene:

Do not eat, drink, or smoke when using this product. Wash hands thoroughly after handling. Wash contaminated clothing before reuse.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Technical measures: comply with applicable regulations.

Storage conditions: Keep only in the original container in a cool, well ventilated place away from heat sources. Keep container closed when not in use. Store in a dry place. Protect from moisture. Cells should be stored at room temperature. Approximately 21°C (70°F).

Incompatible materials: None known.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 OVERVIEW

LITHIUM 7439 / LITHIUM 7439-93-2 – NOT APPLICABLE

THIONYL CHLORIDE 7719-09-07

ACGIH	**ACGIH CEILING (PPM) = 0.2 PPM**
NIOSH	**NIOSH REL CEILING (MG/M) = 5MG/M**
NIOSH	**NIOSH REL CEILING (PPM) = 1 PPM**

ALUMINUM CHLORIDE 7446-70-0 – NOT APPLICABLE

LITHIUM CHLORIDE 7446-41-8 – NOT APPLICABLE

Technical Measures: Read and comply with all local, state, and federal regulations for handling, shipping, and storage.

Storage Conditions: Keep only in original container in a cool, well ventilated place away from heat sources.

Keep containers closed when not in use. Store in a dry place. Protect from moisture. Cells and batteries should be stored at ambient room temperature – approximately 21 Degrees C / 70 Degrees F.

Incompatible Materials – None known for encapsulated batteries.

8.2 APPROPRIATE ENGINEERING CONTROLS

Provide adequate ventilation. Keep container hermetically sealed.

8.3 INDIVIDUAL PROTECTION/PERSONAL PROTECTIVE EQUIPMENT

Hand – None required under normal conditions. For damaged batteries, use acid resistant gloves.

Eye – None required under normal conditions. For damaged batteries, use acid resistant goggles or face shield.

Skin – None required under normal conditions. For damaged batteries, use acid resistant apron.

Respiratory – None required under normal conditions. For damaged batteries, use appropriate niosh respirators and/or self-contained breathing apparatus.

Other Basic Safety Information – Do not eat, drink, or smoke in area when handling materials.

SECTION 9: INFORMATION ON PHYSICAL STATE OF THE BATTERIES

9.1 OVERVIEW

Physical State - Solid
Appearance – Hermetically Sealed

Physical state	**Solid**		**Solubility**	**water**
Appearance	**Hermetically sealed battery**		**Log Pow**	**No data available**
Color	**No data available**		**Auto-ignition temperature**	**No data available**

Odor	**No data available**		**Decomposition temperature**	**No data available**
Odor threshold	**No data available**		**Viscosity, kinematic**	**No data available**
pH	**No data available**		**Viscosity dynamic**	**No data available**
Melting point	**No data available**		**Explosive limits**	**No data available**
Freeing point	**No data available**		**Explosive properties**	**No data available**

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY
Stable under normal conditions of use.

10.2 CHEMICAL STABILITY
Stable under normal conditions of use.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS
Hazardous polymerization will not occur. In contact with water releases flammable gases which may ignite spontaneously.

10.4 CONDITIONS TO AVOID
Heat sources, extremely high or low temperatures, and humidity.

10.5 INCOMPATIBLE MATERIALS
None known under normal conditions of use.

10.6 HAZARDS DECOMPOSITION PRODUCTS
If battery ruptures or leaks: Sulfur oxides, hydrogen chloride, and corrosive vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS
None under normal handling conditions.

11.2 ORAL
Not determined – not likely to be ingested under normal use.

11.3 DERMAL
Not determined – not likely to be in contact under normal use.

11.4 INHALATION
Not determined – not likely to be inhaled under normal use.

SECTION 12: ECOLOGICAL INFORMATION

12.1 TOXICITY
The product components are not classified as environmentally hazardous.

12.2 PERSISTANCE AND DEGRADABILITY
Not established for Lithium Thionyl Chloride Battery.

12.3 BIOACCUMULATIVE
Not established for Lithium Thionyl Chloride Battery.

12.4 MOBILITY IN SOIL
No additional information available. Typically would not contaminate under normal use conditions.

12.5 OTHER ADVERSE EFFECTS

Effect on global warming	**No known effect from this product**
GWPmix comment	**No known effect from this product**
Other information	**Avoid release to the environment**

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS
Product / Packaging disposal: Dispose of contents/container to comply with applicable Local, State, National and International regulations.

Ecology – waste materials: Avoid release to the environment. Always properly handle and dispose of all waste materials.

SECTION 14: DEPARTMENT OF TRANSPORTATION (DOT)

SPECIAL NOTE: THESE BATTERIES HAVE PASSED UN 38.3 TESTS – TEST RESULTS AVAILABLE UPON REQUEST.

Haz Mat Information		Land transport (ADR/RID)	Inland waterway transport (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1	**UN No.**	UN3090		UN 3090 Lithium	UN 3090
		Lithium Metal Batteries		Metal Batteries	Lithium Metal Batteries
14.2 UN	**Proper shipping name**	UN3090		UN 3090 Lithium	Lithium Metal
		Lithium Metal Batteries		Metal Batteries	Batteries
	hazard class(es)	Class 9 -		9 – Miscellaneous	9 – Miscellaneous

14.3 Transport	miscellaneous hazardous material 49 CFR 173, 140		Lithium Battery Label	Lithium Battery and Cargo Only Aircraft Acceptable
Hazard label(s)	9 – class 9 (miscellaneous dangerous materials) and Cargo Only		Class 9 – Lithium Battery Label	9 – Miscellaneous Lithium Battery Label and Cargo Only Aircraft
14.4 Packing group	Medium		See current IMO regulations	See current IATA regulations and USG exceptions found in Section 2
	Danger			
14.5 DOT Packaging Non Bulk (49 CFR 173xxx)	185			
14.6 DOT Packaging Bulk (49 CFR 173xxx)	none			
14.7 DOT Packaging Exceptions (49 CFR 173xxx)	185			

SECTION 15: REGULATORY INFORMATON

15.1 SAFETY, HEALTH, AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE

15.1.1 US Federal Regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

This product or mixture is not known to contain a toxic chemical or chemicals more than the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of the section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.1.2 International Regulations/Legislation

Canada

Lithium (7439-93-2)
Listed on the Canadian DSL (Domestic Substances List)

Thionyl Chloride (7719-09-7)
Listed on the Canadian DSL (Domestic Substances List)

Aluminum Chloride (7447-41-8)
Listed on the Canadian DSL (Domestic Substances List)

Lithium Chloride
Listed on the Canadian DSL (Domestic Substances List)

EU Regulations

Lithium (7439-93-2)
Listed on the EEC inventory EINCS (European Inventory of Existing Commercial Chemical Substances)

Thionyl Chloride (7719-09-7)
Listed on the EEC inventory EINCS (European Inventory of Existing Commercial Chemical Substances)

Aluminum Chloride (7446-70-0)
Listed on the EEC inventory EINCS (European Inventory of Existing Commercial Chemical Substances)

Lithium Chloride (7447-41-8)
Listed on the EEC inventory EINCS (European Inventory of Existing Commercial Chemical Substances)

National Regulations - Lithium (7439-93-2)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported by China) Listed on the Korean ECL (Existing Chemicals List)

Listed on the NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Listed on Taiwan Chemical Substance Inventory

National Regulations - Thionyl Chloride (7719-09-7)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported by China)

Listed on the Japanese ENCS (Existing & New Chemical Substance) Inventory

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on the Korean ECL (Existing Chemicals List)

Listed on the NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law

Listed on the Canadian IDL (Ingredient Disclosure List)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Listed on Taiwan Chemical Substance Inventory

National Regulations - Aluminum Chloride (7446-70-0)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported by China)

Listed on the Japanese ENCS (Existing & New Chemical Substance) Inventory

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on the Korean ECL (Existing Chemicals List)

Listed on the NZIoC (New Zealand Inventory of Chemicals)

Listed on the Canadian IDL (Ingredient Disclosure List)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Listed on Taiwan Chemical Substance Inventory

National Regulations - Lithium Chloride (7447-41-8)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported by China)

Listed on the Japanese ENCS (Existing & New Chemical Substance) inventory

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on the Korean ECL (Existing Chemicals List)

Listed on the NZIoC (New Zealand Inventory of Chemicals)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Listed on Turkish Chemical Substance Inventory

Listed on Taiwan Chemical Substance Inventory

US State Regulations

California proposition 65 – this product does not contain any substance known to the state of California to cause cancer, developmental and/or reproductive harm.

SECTION 16: OTHER INFORMATION

16.1 INDICATION OF CHANGES

This document was originally prepared September 27, 2017.

16.2 ABBREVIATIONS AND ACRONYMS

All information can be referenced online. For any technical assistance, please contact HDI at the contact information provided.

16.3 KEY LITERATURE REFERENCES AND SOURCES FOR DATA

2017 Regulations for the Safe Transport of Dangerous Goods

16.4 USED THE CLASSIFICATION FOR MIXTURES AND EVALUATION METHODS ACCORDING TO CURRENT REGULATIONS

16.5 SDS PREPARED BY LARRY SNELLINGS – SENIOR CONSULTANT

Dangerous Goods, Inc. Houston, Texas USA
www.dangerousgoods.com

16.6 TRAINING ADVICE

All employees must be trained in the current regulations for the use of SDS and the safe handling of materials.

16.7 FURTHER INFORMATION

For any technical assistance, please contact HDI in Houston, Texas USA. Contact details listed at the beginning of this document.