

LB001 Lithium Battery Pack

PRODUCT NAME : Pulsarlube Lithium Battery Pack Type No.: LB001 Volts : DC 4.5V
 TRADE NAMES : Lithium Battery Pack Approximate Weight : 59.5g
 CHEMICAL SYSTEM : Lithium Iron Disulfide Designed for Recharge : No

1. MANUFACTURER INFORMATION

Pulsarlube USA, Inc. Telephone Number for Information:
 1480 Howard Street, Tel.: +1 (847) 593-5300
 Elk Grove Village, Fax : +1 (847) 593-5303
 IL 60007, USA

Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident, call:

ChemTel - Contract #MIS9192028

USA/CANADA	800-255-3924
MEXICO	01-800-099-0731
CHINA	400-120-0751
BRAZIL	0-800-591-6042
INDIA	000-800-100-4086
INTERNATIONAL	01-812-248-0585

2. HAZARDS IDENTIFICATION

Under normal conditions of use, the battery & battery pack is hermetically sealed.

Ingestion : Swallowing a battery can be harmful.

Inhalation : Contents of an open battery can cause respiratory irritation.

Skin Contact : Contents of an open battery can cause skin irritation.

Eye Contact : Contents of an open battery can cause severe irritation.

3. INGREDIENTS

IMPORTANT NOTE : The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

(Based on the battery)

MATERIAL OR INGREDIENT	PEL (OSHA)	TLV (ACGIH)
Carbon Black (CAS# 1333-86-4)	3.5 mg/m ³ TWA	3.5 mg/m ³ TWA
1,2 Dimethoxyethane (CAS# 110-71-4)	None established	None established
1,3 Dioxolane (CAS# 646-06-0)	None established	20 ppm TWA
Graphite (CAS# 7782-42-5)	15 mg/m ³ TWA (total dust) 5 mg/m ³ TWA (respirable fraction)	2 mg/m ³ TWA (respirable fraction)

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Iron Disulfide (CAS# 1309-36-0)	None established	None established
Lithium or Lithium Alloy	None established	None established
Lithium Iodide	None established	None established
Non-Hazardous Components Steel (iron CAS# 7439-89-6)	None established	None established
Plastic and Other	None established	None established

4. FIRST AID MEASURES

Ingestion : Do not induce vomiting or give food or drink. Seek medical attention immediately. CALL NATIONAL BATTERY INGESTION HOTLINE for advice and follow-up (202-625-3333) collect day or night.
(when Problem happen which The battery cell in a pack)

Inhalation : Provide fresh air and seek medical attention.

Skin Contact : Remove contaminated clothing and wash skin with soap and water.

Eye Contact : Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

Note: Carbon black is listed as a possible carcinogen by International Agency for Research on Cancer (IARC).

5. FIRE FIGHTING MEASURES

In case of fire where lithium batteries are present, flood area with water or smother with a Class D fire extinguishant appropriate for lithium metal, such as Lith-X. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. A smothering agent will extinguish burning lithium batteries.

Emergency Responders should wear self-contained breathing apparatus. Burning lithium-iron disulfide batteries produce toxic and corrosive lithium hydroxide fumes and sulfur dioxide gas.

6. ACCIDENTAL RELEASE MEASURES

To cleanup leaking batteries:

Ventilation Requirements : Room ventilation may be required in areas where there are open or leaking batteries.

Respiratory Protection : Avoid exposure to electrolyte fumes from open or leaking batteries.

Eye Protection : Wear safety glasses with side shields if handling an open or leaking battery.

Gloves : Use neoprene or natural rubber gloves if handling an open or leaking battery.

Battery materials should be disposed of in a leak-proof container.

7. HANDLING AND STORAGE

Storage : Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life. In locations that handle large quantities of lithium batteries, such as warehouses, lithium batteries should be isolated from unnecessary combustibles.

Mechanical Containment : If potting or sealing the battery in an airtight or watertight container is required, consult your Pulsarlube USA, Inc. representative for precautionary suggestions. Do not obstruct safety release vents on batteries. Encapsulation of batteries will not allow cell venting and can cause high pressure rupture.

Handling : Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, generate significant heat and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices. Damaging a lithium battery may result in an internal short circuit.

The contents of an open battery, including a vented battery, when exposed to water, may result in a fire and/or

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explosion.
Crushed or damaged batteries may result in a fire.

If soldering or welding to the battery is required, consult your Pulsarlube representative for proper precautions to prevent seal damage or short circuit.

Charging : This battery is manufactured in a charged state. It is not designed for recharging. Recharging can cause battery leakage or, in some cases, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards.

Labeling : If the Pulsarlube label or package warnings are not visible, it is important to provide a package and/or device label stating:

WARNING: Battery can explode or leak and cause burns if installed backwards, disassembled, charged, or exposed to water, fire or high temperature.

Where accidental ingestion of small batteries is possible, the label should include:

WARNING: (1) Keep away from small children. If swallowed, promptly see doctor
(2) Battery can explode or leak and cause burns if installed backwards, disassembled, charged, or exposed to water, fire or high temperature.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation Requirements : Not necessary under normal conditions.

Respiratory Protection : Not necessary under normal conditions.

Eye Protection : Not necessary under normal conditions.

Gloves : Not necessary under normal conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES

(Based on the battery)

Appearance (physical state, color, etc.):	Solid object
Upper Explosive Limits:	Not applicable for an Article
Lower Explosive Limits	Not applicable for an Article
Odor	No odor
Vapor Pressure (mm Hg @ 25°C)	Not applicable for an Article
Odor Threshold	No odor
Vapor Density (Air = 1)	Not applicable for an Article
pH	Not applicable for an Article
Density (g/cm ³)	1.7 -2.0
Melting point/Freezing Point	Not applicable for an Article
Solubility in Water (% by weight)	Not applicable for an Article
Boiling Point @ 760 mm Hg (°C)	Not applicable for an Article
Flash Point	Not applicable for an Article
Evaporation Rate (Butyl Acetate = 1)	Not applicable for an Article
Flammability	Not applicable for an Article
Partition Coefficient	Not applicable for an Article
Auto-ignition Temperature	Not applicable for an Article
Decomposition Temperature	Not applicable for an Article

Viscosity	Not applicable for an Article
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10. STABILITY AND REACTIVITY

Lithium iron disulfide batteries contain no sulfides or cyanides and they do not meet any other reactivity criteria including “reacts violently with water” and therefore do not meet any of the criteria established in 40 CFR 261.2 for reactivity.

11. TOXICOLOGICAL INFORMATION

Under normal conditions of use, lithium iron disulfide batteries are non-toxic.

12. ECOLOGICAL INFORMATION

Issues such as ecotoxicity, persistence and bioaccumulation are not applicable for articles.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable federal, state and local regulations.

14. TRANSPORT INFORMATION

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in “strong outer packaging” that prevents spillage of contents. LB001 contains more than 2g but less than 3g of lithium content.

✘ UN 38.3 Approved (UL has determined that the sample(s) tested conform with the requirements of the Standard(s) indicated on this Certificate. Standard : UN Manual of Tests and Criteria Part III, Subsection 38.3 Lithium Metal and Lithium Ion Batteries, UN ST/SG/AC.10/11/ Rev.5/Amend.1 Certi. No 20150317-4786789584)

Regulatory Body	Special Provisions
ADR	188, 230, 310, 636, 656
IMDG	188, 230, 310, 957
UN	UN 3090, UN 3091
US DOT	29, A54, A100, A101
IATA 58th Edition, ICAO	Packaging Instructions 968 – 970

See Details; (For Battery Pack)

- * US DOT Shipping Name : Lithium Metal Batteries
 DOT hazard class: Class 9
 UN Number: 3090, 3091
- * Packaging group : Packaging material used for Packing Group II
- * DOT Packaging instructions. : 49 CFR §173.185
- * DOT Labels Required :



- * IATA Shipping Name : Lithium Metal Batteries
- * IATA Labels Required :



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- * IATA Packaging instructions: PI 968 Section IA
- * Limit per package : Pax A/C FORBIDDEN, CAO = 35kg

15. REGULATORY INFORMATION

Outside of the transportation requirements noted in Section 14, lithium iron disulfide batteries marketed by Pulsarlube USA, Inc. are not regulated.

SARA/TITLE III - As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right-To-Know Act.

16. OTHER INFORMATION

1) Source of the data

(1) Battery manufacturer's information : PSDS(PRODUCT SAFETY DATA SHEET) Data

2) The first creation date : 2015.01.07

3) The number of times, and the final revision date : Revision times 04

The final revision date: 2018.10.25

Pulsarlube has prepared copyrighted Product Safety Datasheets to provide information on the different Pulsarlube battery systems. As defined in OSHA Hazard Communication Standard, Section 1910.1200 (c), Pulsarlube Lithium battery Packs are manufactured articles, which do not result in exposure to a hazardous chemical under normal conditions of use. The information and recommendations set forth herein are made in good faith, for information only, and are believed to be accurate as of the date of preparation. However, Pulsarlube USA, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM REFERENCE ON IT.