

## Safety Data Sheet

### Lithium Iron Disulfide

This Safety Data Sheet (SDS) provides relevant battery information to retailers, consumers, and OEMs requesting a GHS-compliant SDS. Articles, such as batteries, are exempt from GHS SDS classification criteria. The GHS criteria is not intended to be used to classify the physical, health and environmental hazards of an article. Branded consumer batteries are defined as electro-technical devices. The design, safety, manufacture, and qualification of UPG branded consumer batteries follow ANSI and IEC battery standards.

### Section 1 - Identification

**Date Prepared:** 01/23/24  
**Product Name:** Universal Battery  
**Chemistry:** Lithium Iron Disulfide  
**Rechargeable:** No  
**Supplier:** Universal Power Group, Inc.  
 120 Dividend Drive, Suite 100,  
 Coppell, TX 75019  
**technicalsupport@upgi.com:** 469-892-1122

### Section 2 - Hazard Identification

These batteries are classified as Exempt Articles and not subject to OSHA, WHMIS (Canada), or GHS requirements because the criteria for these requirements are not intended to be used to classify hazards of an article.

**Inhalation:** Contents of 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 eye irritation

### Section 3 - Composition/Information on Ingredients

Material or Ingredient	CAS No.	% by Weight
Iron Sulfide	1317-37-9	30.6
Lithium	7439-93-2	6.4
Iron	7439-89-6	35.7
Aluminum	7429-90-5	8.1
Phosphate (1-), hexafluoro-, lithium	21324-40-3	1.9
Ethylene glycol dimethyl ether	110-71-4	7.4
1,3-Dioxolane	646-06-0	7.4
Polypropylene	9003-07-0	2.5

## Section 4 - First Aid Information

**Ingestion:**

Seek medical attention immediately!

Do not induce vomiting or give food or drink.

Call **NATIONAL BATTERY INGESTION HOTLINE** at **800-498-8666** day or night for advice and follow-up.

**Skin:**

In the event that the battery ruptures, flush exposed skin with flowing lukewarm water for a minimum of 15 minutes and wash with skin with soap and water.

**Eyes:**

Seek medical attention immediately!

## Section 5 - Fire Fighting Measures

**Suitable Extinguishing Media:**

Small Fire: Dry chemical, soda ash, lime or sand

Large Fire: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk

**Unsuitable Extinguishing Media:**

Water or foam

**Specific Hazards Arising from the Chemicals:**

Battery may burst and release hazardous decomposition products when exposed to a fire situation.

Battery may produce flammable gases on contact with water and may ignite on contact with water or moist air.

Battery may be ignited by heat, sparks or flames and may re-ignite after fire is extinguished.

Runoff may create fire or explosion hazard.

## Section 6 - Accidental Release Measures

**Personal Precautions:**

As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. Keep unauthorized personnel away. Stay upwind, uphill and/or upstream. Ventilate the area before entry.

**Emergency Procedures:**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leaking if you can do it without risk. Use water spray to reduce vapor or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. **DO NOT GET WATER on spilled substances or inside containers.**

**Small Spill:** Cover with DRY earth, DRY sand or other noncombustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal. Do not apply water unless directed to do so.

**Powder Spill:** Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

**DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

## Section 7 - Handling and Storage

Store batteries in a dry place.

Storing unpackaged cells together with other combustible materials could result in cell shorting and fire.

Do not recharge.

Do not puncture, crush or expose to fire.

Do not reverse polarity when installing.

Use in well-ventilated areas.

Do not obstruct safety release vents on batteries. Encapsulation of batteries will not allow cell venting and can cause high pressure rupture.

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.

The label acts as an electrical insulation for the battery can. Damage to the label can increase the potential for short circuit.

Do not mix with other battery types.

Replace all batteries at the same time.

## Section 8 - Exposure Controls

Not applicable to Batteries which are classified as Articles.

In case of rupture or leakage use hand protection.

Avoid contact with skin and eyes

## Section 9 - Physical and Chemical Properties

Not applicable to Batteries which are classified as Articles

## Section 10 - Stability and Reactivity

**STABLE OR UNSTABLE:** Stable

**INCOMPATIBILITY (MATERIALS TO AVOID):** Not Applicable to articles.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Not Applicable to articles.

**DECOMPOSITION TEMPERATURE (0°F):** Not Applicable to articles.

**HAZARDOUS POLYMERIZATION:** Will Not Occur

**CONDITIONS TO AVOID:** Avoid electrical shorting, puncturing or deforming

## Section 11 - Toxicological Information

### Control Parameters

CAS No.	LC50/LD50
1317-37-9	No data available.
7439-93-2	No data available.
110-71-4	LD50 Rat (oral): 2525mg/l<g
646-06-0	LD50 Rat (oral): 3000mg/kg, LD50 Rabbit (Dermal): 9074mg/kg
21234-40-3	No data available.
9003-07-0	No data available.
7439-89-6	No data available.
7429-90-5	No data available.

## Section 12 - Ecological Information

Dispose of battery properly when discharged. Use a recycling outlet if available.

Those collecting batteries should follow state and federal regulations.

Partially discharged damaged batteries can overheat and cause fires in the presence of other combustible materials.

## Section 13 - Disposal Considerations

Lithium iron disulfide batteries are not hazardous waste per the United States Resource Conservation and Recovery Act (RCRA) - 40 CFR Part 261 Subpart C.

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

## Section 14 - Transportation Information

Lithium-Iron Disulfide batteries are exempt from the classification as dangerous goods as they meet the requirements of the special provisions listed below. (Essentially, they are properly packaged and labeled, contain less than 1 gram of lithium and pass the tests defined in UN model regulation section 38.3).

<b>UN or ID Number IMDG</b>	<b>UN3090</b>
<b>Proper Shipping Name/Description IMDG</b>	<b>LITHIUM METAL BATTERIES</b>
<b>Packing Group IMDG</b>	<b>N/A</b>
<b>Hazard Label IMDG</b>	<b>N/A</b>
<b>Environmental Hazards IMDG</b>	<b>No</b>
<b>IMDG EmS:</b>	<b>F-A. S-I</b>

Separate batteries to prevent short-circuiting. These batteries should be packed in strong packaging during transport.

Lithium cell or battery should incorporate a safety venting device or be designed to prevent a violent rupture under normal transport conditions. Keep away from high temperature and open flames.

### Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for these batteries:

CAS No.	TSCA	IECSC	DS/NDSL	EINECS/ELINCS/NLP
1317-37-9	Listed	Listed	Listed DSL	Listed
7439-93-2	Listed	Listed	Listed DSL	Listed
110-71-4	Listed	Listed	Listed DSL	Listed
646-06-0	Listed	Listed	Listed DSL	Listed
21234-40-3	Listed	Listed	Listed DSL	Listed
9003-07-0	Listed	Listed	Listed DSL	Listed
7439-89-6	Listed	Listed	Listed DSL	Listed
7429-90-5	Listed	Listed	Listed DSL	Listed

### Section 16 - Other Information

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, UNIVERSAL POWER GROUP INC. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM REFERENCE ON IT.

END of REPORT