Lithium-sulfur dioxide cells

Li-SO_2 sealed primary lithium-metal cells and battery packs

Scope. DatamSea technical reference revised 23 November 2026. The supplied sheet does not identify a part number. Use the manufacturer's current battery information sheet and transport documents for the exact model. Supplier contact details from the supplied copy are omitted.

01 Identification

Product family: non-rechargeable lithium-sulfur dioxide cells and batteries. For an exposure or fire, contact local emergency services or a poison center. Obtain model-specific emergency contact information from the current manufacturer document.

02 Hazard identification

Intact, sealed cells contain their internal materials during intended use. Short circuit, charging, physical damage or overheating can cause a leak, rupture, fire or exposure to irritating or corrosive contents and fumes.

03 Composition

Component	CAS number	Reference mass fraction
Lithium metal	7439-93-2	Less than 3%
Sulfur dioxide	7446-09-5	Less than 30%
Acetonitrile	75-05-8	Less than 9%
Lithium bromide	7550-35-8	2.0–2.5%
Carbon	1333-86-4	6.5–7.0%

Ranges are from the chemistry-family reference. Exact composition can vary by cell model. Manufacturer BIS, §3

04 First aid

Eyes or skin. Flush electrolyte from eyes or skin with water for at least 15 minutes. Remove contaminated clothing. Get medical attention, especially after eye exposure.

Inhalation. Move away from fumes to fresh air if it is safe to do so. Seek medical help after significant exposure or if symptoms occur.

Swallowed cell or contents. Get medical advice immediately. Do not induce vomiting. Follow instructions from the poison center or emergency clinician.

Manufacturer BIS, §4 · MedlinePlus battery poisoning guidance

Metal particles on skin: the manufacturer specifies particle removal before rinsing. Obtain prompt medical attention and consult the model-specific BIS.

Fire and safe handling

05 Firefighting measures

Do not use CO_2 or halon extinguishers for this battery family. Once metallic lithium is exposed, water can react with it. Approach and extinguishing media depend on whether the lithium metal remains enclosed.

Evacuate and call trained responders. The manufacturer distinguishes cooling intact battery assemblies from extinguishing exposed lithium. For exposed lithium metal it specifies a suitable Class D agent. Trained firefighters should follow the current model sheet and incident plan.

Manufacturer BIS, §5

06 Accidental release

Keep personnel away from a leaking or ruptured cell. Avoid breathing vapors and bare-skin contact with the liquid. Keep material out of drains and waterways. Trained and protected personnel should follow the manufacturer’s spill procedure and local hazardous-waste rules. A hot or damaged cell requires specific handling.

Manufacturer BIS, §6

07 Handling and storage

Prevent short circuits, mechanical damage and direct heating. Do not recharge. Retain the original packaging until needed and keep in a dry, ventilated place away from heat and sunlight. Use the storage and operating temperature limits stated for the exact model. The supplied sheet’s temperatures varied by section.

Manufacturer BIS, §7

08 Exposure controls and personal protection

In case of leakage, use appropriate protective gloves, eye protection and protective clothing. Trained firefighters require protective breathing equipment. For occupational exposure to sulfur dioxide, use the limit and response controls applicable in the work jurisdiction. The supplied concentration limit is not a universal standard.

Manufacturer BIS, §8 · NIOSH sulfur dioxide guidance

Properties and disposal

09 Physical and chemical properties

The supplied sheet describes a sealed cylindrical cell. A leaking unit may emit a pungent odor. Parameters such as liquid pH, flash point and water solubility are not applicable to the intact article as a whole. Refer to the model information for dimensions and performance data.

10 Stability and reactivity

The sealed article is designed to be stable under specified operating and storage conditions. Avoid short circuit, charging, crushing, piercing, disassembly and overheating. Released lithium can react with water and generate flammable hydrogen. Released sulfur dioxide can irritate exposed tissue. Consult the current model limits.

11 Toxicological information

A ruptured cell may release contents or fumes that can injure the respiratory tract, eyes and skin. Swallowing a cell or its contents can cause serious injury. The effects depend on the exposure and the condition of the article.

12 Ecological information

Avoid releases of electrolyte or other contents to the environment. This family-level reference provides no model-specific ecotoxicity or environmental fate test data.

13 Disposal considerations

Use an approved collection, recycling or disposal route under local rules. Do not incinerate. Segregate damaged or leaking batteries for assessment under the applicable battery waste and transport requirements.

Manufacturer BIS, §§9–13 · EU Batteries and Waste Batteries Regulation

Transport and references

14 Transport information

Configuration	UN	Proper shipping name
Cell or battery shipped separately	3090	LITHIUM METAL BATTERIES
Packed with equipment	3091	LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT
Contained in equipment	3091	LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

Class: 9. **Packing group:** not assigned. **IMDG EmS:** F-A, S-I.

Match the actual configuration, condition, chemistry and part number to the current requirements for the transport mode. Obtain the model-specific UN 38.3 test summary and any applicable transport documentation. Packaging performance requirements are determined by the applicable packing instruction.

IMDG 42-24, Dangerous Goods List · IATA guidance · US 49 CFR §172.101

15 Regulatory information

CHIP and its historical labels were replaced by CLP for chemical classification and labeling in Great Britain. Check the applicable battery rules for the destination, including Regulation (EU) 2023/1542 where relevant.

HSE CLP and CHIP guidance · Regulation (EU) 2023/1542

16 Revision and source

This revised reference supersedes the supplied copy marked “Rev. 3 June 2025” in the DatamSea library. The published manufacturer BIS remains the primary source for this battery family. Its edition and the revision date above are separate.

Saft Battery Information Sheet BIS03-11-12, January 2025, version 2.2