



SDS

Safety Data Sheet

CR123A Batteries

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	Lithium Metal Cell
Chemical Name	Lithium and Manganese Dioxide (Li-MnO ₂ cells)
Product Code	CR123A 1700 mAh; Voltage 3.0V; Watt Hours: 5.1Wh; Lithium content: 0.56g
Name of Company	Armament Systems and Procedures
Address	2511 E Capitol DR, Appleton, WI, USA
Phone	(920) 735-6242

2. HAZARDS IDENTIFICATION

GHS Classification	Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)
Toxicity	Vapor generated from burning batteries may irritate eyes, skin and throat.
Hazard	Risk of explosion by fire if batteries are disposed in fire or heated above 100 degrees C. Stacking or jumbling batteries may cause external short circuits, heat generation. Fire or explosion.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS NO.	Weight (%)
Iron	7439-89-6	30-60
Manganese dioxide	1313-13-9	15-40
Mixed Organic Solvent	-	7-13
Lithium	7439-93-2	1-5
Polypropylene	9003-07-0	1-5
Perchloric acid, lithium salt	7791-03-9	1-5
Aluminum	7429-90-5	1-5

4. FIRST AID MEASURES

General advice	No hazards which require special first aid measures
Inhalation	Not an expected route of exposure
Skin Contact	No special technical protective measures are necessary

Eye Contact	Not an expected route of exposure
Ingestion	Rinse mouth. Get medical attention. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Suitable extinguishing media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors
 Keep product and empty container away from heat sources of ignition
 In the event of fire and/or explosion do not breathe fumes

6. ACCIDENTAL RELEASE MEASURES

Take up with absorbent cloth, treat cloth as flammable.
 Move the battery away from the fire.

7. HANDLING AND STORAGE

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.
 Ensure adequate ventilation, especially in confined areas.
 Keep away from heat, sparks, flame and other sources of ignition.
 Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.
 Keep away from heat.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Acceptable concentration Not specified about Lithium battery
 Facilities Nothing in particular.

Protective Equipment (in case of electrolyte leakage from the battery)

Hand Protection No special technical protective measures are necessary.
 Eye/face protection No special technical protective measures are necessary.
 Skin and body protection Wear suitable protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Cylindrical shape
 Nominal Voltage 3V

10. STABILITY AND REACTIVITY

Reactivity

Stable under recommended storage and handling conditions (see SECTION 7, handling and storage).

Chemical stability

Stable under normal conditions

Possibility of Hazardous Reactions

None under normal processing

Conditions to avoid

Extremes of temperature and direct sunlight

Incompatible materials

None known based on information supplied

Hazardous Decomposition Products

None known based on information supplied

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Oral(rat) LD50> 2000mg/kg (estimated)

Irritation

Irritating to eye and skin

Mutagenicity

Not specified

Chronic toxicity

Not specified

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants EC50	Fish LC50	Crustacea EC50
Iron (CAS#: 7439-89-6)	-	-	>100 mg/L/48h (Daphnia magna)
Aluminum (CAS#: 7429-90-5)	-	>50 mg/L/96h	-

Persistence and degradability

No information available

Bioaccumulative potential

Chemical Name	Partition coefficient (LogPow)
Manganese dioxide (CAS#: 1313-13-9)	<0

Mobility in soil

No information available

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated packaging

Dispose of in accordance with federal, state and local regulations

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	Partition coefficient (LogPow)
Aluminum (CAS#: 7429-90-5)	Ignitable powder

14. TRANSPORT INFORMATION

During the transportation of a large amount of batteries by ship, trailer or railway, do not leave them in high temperatures and do not allow them to be exposed to condensation.

During transportation do not allow packages to be dropped or damaged.

Proper shipping name
UN Number, UN class

Lithium metal batteries
UN3090, Class 9 (for the Air transport by PI 968 Section IA or IB)
Exemption (for the marine transport and the air transport by Section II of PI 968, 969 or 970)
Even though the cells are classified as lithium metal batteries (UN3090 or UN3091), they are not subject to some requirements of Dangerous Goods Regulations because they meet the following:
1. for cells, the lithium content is not more than 1g;
2. each cell is of the type proven to meet the requirements of each test in the UN Manual of Tests and criteria, Part III, sub-section 38.3.
3. each cell is manufactured in ISO9001 certified factory

Please refer to the following reference information about concrete ways of transportation. Actual content of packaging label and shipping documents varies by shipping companies. Make sure to confirm in advance with your shipping company.

Information of reference

	Reference	Packing Instruction (PI) Special provision (SP)	Note
Air Transport	IATA DGR	PI 968 Section 1A	Cells, cargo Aircraft only; Net quantity per package Max. 35kg
		PI 968 Section 1B	Cells, cargo Aircraft only; Net quantity per package Max. 2.5kg
		PI 968 Section II	Cells, on cargo Aircraft only, not more than one package in any single consignment. Maximum number of cells per package; 8 cells
		PI 969 Section II	Cells packed with equipment
		PI 970 Section II	Cells contained with equipment
Marine Transport	IMDG Code	SP 188	

15. Regulatory Information

- * IATA Dangerous Goods Regulations 61st Edition (IATA DGR)
- * IMO International Maritime Dangerous Goods Code 2016 and 2018 Edition (IMDG Code)
- * UN Recommendations on the Transportation of Dangerous Goods, Model Regulations
- * UN Recommendations on the Transportation of Dangerous Goods, Manual of Tests and Criteria
- * EU Battery Directive (2006/66/EC. 2013/56/EU)
- * Regulation (EC) No. 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)
- * State of California Regulations - Best management practices for perchlorate Materials
- * Act on Preventing Environmental Pollution of Mercury

16. ADDITIONAL INFORMATION

This MSDS is provided to customers as reference information in order to handle batteries safely. It is necessary for the customer to take appropriate measures depending on the actual situation such as the individual handling, based on this information.