Box 1794 · Appleton, WI 54912 · (920) 735-6242 · Fax (920) 735-6245 · asp-usa.com

SDS
Safety Data Sheet

CR123A Batteries

1. PRODUCT & COMPANY IDENTIFICATION

Company Name	Armament Systems and Procedures, INC
Address	2511 E Capitol Drive, Appleton, WI 54911
Telephone No	(920) 735-6242
Date	11 JAN 16
Type	CR123A
Name of Sample	Lithium Metal Cell/Battery

2. HAZARDS IDENTIFICATION

Fatalness grade:
In accordance with Regulation (EC) No 1272/2008, the sample is divided into dangerous article.

Invasion Route:

Skin Contact: Contact with battery electrolyte may cause burns and skin irritation.

Eye Contact: Contact with battery electrolyte may cause burns. Eye damage is possible.

Inhalation: Inhalation of vapors or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation.

Ingestion: Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.

Health Hazards:
The chemical is contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused.

Environment Hazards:
Do not dispose of the battery into the environment, may cause water or soil pollution.

Burn and Burst Danger:
Do not dispose of battery in fire; it may explode. Do not short-circuit the battery or it may cause burns.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight (%)	CAS NO.
Lithium	3.0-4.0	7439-93-2
Carbon	2.0-3.0	7782-42-5
Manganese Dioxide	35.0-45.0	1313-13-9
Aluminum	2.0	7429-90-5
1,2-Dimethoxyethane	7.0	110-71-4
Propylene Carbonate	7.0	108-32-7
Lithium Perchlorate	1.0-1.5	7791-03-9
Polypropylene	3.0	9003-07-0
Polytetrafluoroethene	5.0	9002-84-0
Ferrum	25-30	7439-89-6
Nickel	1.0	7440-02-0

Abbreviation: CAS NO is Chemical Abstract Service Registry Number, N/A = Not Apply.

4. FIRST AID MEASURES

Eye	If the battery is leaking and the contained material contacts the eyes, flush the eyes with plenty of water or saline water for at least 15 minutes. Seek medical attention right away.
Skin	If the battery is leaking and the contained material contacts the skin, remove contaminated clothes quickly and rinse the skin with plenty of water for at least 15 minutes. If irritation or pain persists, seek medical attention right away.
Inhalation	If the battery is leaking, move to fresh air immediately. Keep the respiratory tract smooth. Use oxygen if available. Seek medical attention.
Ingestion	If the battery is leaking and the contained material is ingested, rinse mouth and surrounding area with clear water. Seek medical attention right away.

5. FIRE FIGHTING MEASURES

Danger Characteristic	Exposure to excessive heat can cause venting of the liquid electrolyte. Battery may burst and release hazardous decomposition products when exposed to a fire situation.
Hazardous Combustion Products	CO, CO2, metal oxides, irritating fumes
Fire Fighting Method	The person must be equipped with a filtermask (full mask) or isolated breathing apparatus. The person must wear the clothes which can defend the fire in an upwind direction. Remove the container to the open space as soon as possible. Spray water on the containers in the fire place to keep them cool until fire extinguishment.
Firefighting Method & Media	Wear full mask or isolated breathing apparatus. Wear clothes that can protect from the fire. Remove the container to an open space as soon as possible. Spray water on the containers to keep them cool until fire is extinguished. Media: hazy water, foam powder, CO_2, sandy clay.

6. ACCIDENTAL RELEASE MEASURES

Emergency Treatment	If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gasses. The preferred response is to leave the area and allow the batteries to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid and incinerate waste.

7. HANDLING AND STORAGE

Handling	1. Do not allow battery terminals to contact each other or contact other metals. 2. Pack batteries separately so that single batteries are not mixed together. 3. Do not expose battery to excessive physical shock or vibration. 4. Do not immerse, throw or place a battery in water. 5. Short-circuiting should be avoided. Short-circuit will reduce the life of the battery and can lead to ignition of surrounding materials. Physical contact with two short-circuited batteries can cause skin burn. 6. The batteries should not be opened, destroyed or incinerated. The ingredients contained in the hermetically sealed container may leak or rupture and release into the environment. 7. Place the cell beyond the child packing and container. 8. Never keep battery in an airtight compartment or sealed container. 9. Be sure to use the specified charger for battery, and follow the charging instructions correctly. 10. Do not mix old and new batteries together, or with Ni-Cd, dry batteries or another manufacturer ‘s batteries or product.
Storage	1. Batteries should be separated from other materials and stored in a noncombustible, well ventilated, sprinkler-protected structure with sufficient clearance between walls and battery stacks. 2. Keep the battery in a cool, dry and well ventilated place. Do not expose to direct sunlight for long periods. Keep away from fire and heat sources. Do not keep the battery with oxidizer and acid. 3. Keep batteries in original package until use and do not combine them. 4. Equip with relevant types and quantities of the extinguishment instruments. The storage place should be equipped with suitable shelter materials for divulgence handling.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Maximum admissible concentration	No standard yet
Monitoring Method	/
Engineering Control	Keep away from heat and open flame. Supply with sufficient partial air exhaust. Store in a cool, dry place.
Respiratory Protection	Not necessary under conditions of normal use. Wear self contained breathing filter mask if the density exceeds the air. Wear breathing apparatus under the condition of emergency rescue or evacuation.
Eyes Protection	Not necessary under conditions of normal use. Wear protective glasses if handling a leaking or ruptured battery.
Body Protection	Not necessary under conditions of normal use. Wear fireproofing, gas defense clothes in case of handling a leaking or ruptured battery.
Hands Protection	Not necessary under conditions of normal use. Wear chemical resistant rubber gloves in case of handling a leaking or ruptured battery.
Other Protections	No smoking, dining or drinking water in the workplace. Keep good habit of hygiene.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Physical shape and color as supplied
Odor	Odorless
Flash Point	N/A
Boiling Point	N/A
Melting Point	N/A
Proportion	N/A
Acid Value	N/A
PH Value	N/A
Density	N/A
Permission of solvent inhalation	No specific data
Ignition temperature	No specific data
Solubility	Insoluble in water

10. STABILITY AND REACTIVITY

Stability	Stable under normal temperature and pressure.
Distribution of Ban	Strong oxidizer, strong acid and corrosives
Conditions to Avoid	Fire source, heating source, disassembly, short-circuit, immersion in water or overcharge.
Hazardous Polymerization	No specific data

Hazardous Decomposition Products	The battery may release irritating gas once the electrolyte leaks.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	No information is available
Sub-acute and Chronic Toxicity	No information is available
Irritation	The liquid in the battery may irritate eyes and skin with any contact.
Sensitization	The liquid in the battery may cause sensitization to some people
Mutageniciy	No information is available
Carcinogenicity	No information is available
Others	Since the materials in this battery are sealed in the can, the potential for exposure to the components of the battery is negligible, when the battery is used as directed. However technical or electrical abuse of the battery may result in the release of battery contents.

12. ECOLOGICAL INFORMATION

Eco-toxicity	No information is available
Biodegradable	No information is available
Non-biodegradable	No information is available
Bioconcentration or biological accumulation	No information is available
Other harmful effects	Don't dispose of battery into the environment; may cause water or soil pollution

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	Refer to national or local regulations before handling. Disposal of the battery should be performed by permitted professional disposal firms knowledgeable in national or local regulations of hazardous waste treatment and hazardous waste transportation.
Attention abandoned	The battery should be completely discharged prior to disposal in order to prevent short circuit. The battery contains recyclable materials. It is suggested to recycle.

14. TRANSPORT INFORMATION

Number of dangerous goods	/
UN Number	3480/3481
Packaging Mark	/
Packaging Method	/
Transport Attention	According to PACKING INSTRUCTION 965~967 of IATA DGR 57th Edition for transportation, the special provision of 188 of IMDG (inc Amdt35-10). The batteries should be securely packed and protected against short-circuits. Examine whether the package of the containers are together and tight before closed for transport. Move cargo without them falling, dropping or breaking. Prevent collapse of cargo piles and water from rain. The transport vehicle and ship must be cleaned and sterilized otherwise it is not allowed to assemble articles. During transport, the vehicle should prevent exposure to rain and high temperatures. For stopovers, the vehicle should be away from fire and heat sources. When transported by sea, the assemble place should keep away from bedrooms and kitchen, and isolated from the engine room, power and fire source. Under the condition of Road Transportation, the driver should drive in accordance with regulated route. Do not stop over in residential or congested areas.

15. Regulatory Information

Law Information:

ISO 11014-2009: Safety Data Sheet for chemical products – Content and order of sections.

Regulation (EC) No 1272/2008: Classification, Labeling and Packaging of Substances and Mixtures.

International Air Transport Association (IATA) Dangerous Goods Regulations, 56th Edition.

The International Maritime Dangerous Goods (IMDG) Code (inc Amdt35-10).

16. ADDITIONAL INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.