MATERIAL SAFETY DATA SHEET
MEDIANA AED BATTERY

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Name of Product: Manganese dioxide lithium battery
1.2 EC Company: Reliance Medical LTD
1.3 EC Address: West Ave, Talke, Stoke-On-Trent, Staffordshire, ST7 1TL, United Kingdom.
1.4 EC Phone Number: 08456 448808
1.5 Supplier Name: Panasonic Corporation
1.6 Supplier Address: 1-1Matsushita-cho, Moriguchi-city, Osaka, 570-8511, Japan.
1.7 Supplier Phone Number: Outside the United States +1-703-527-3887
In the United States 1-800-424-9300

2. HAZARD IDENTIFICATION

2.1 Classification according to GHS: N/A
2.2 Hazard statements: Electrolyte and lithium metal are inflammable. 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.
2.3 Toxicity: Vapour generated from burning batteries may irritate eyes, skin and throat.

3. INFORMATION ON INGREDIENTS

Component	Material	CAS No.	Content (%)
Positive Electrode	Manganese Dioxide	1313-13-9	25-47
Negative Electrode	Lithium Metal	7439-93-2	2-5
Electrolyte	1,2-Dimethoxyethane	110-71-4	3-7
	Organic Electrolyte.	-	5-17
Others	Steel	7439-89-6, 7440-47-3	25-50
(Steel or Plastic Parts)	Polypropylene	9003-07-0	3-15

Lithium Content Per Cell

Model Number	Lithium Content (g)	Model Number	Lithium Content (g)
CR2	0.33	CR123A	0.6
Model Number	**Lithium Content (g)**	**Model Number**	**Lithium Content (g)**
CR-2/3AZ	0.6	CR-AG	0.8

4. FIRST AID MEASURES

4.1 Skin Exposure: After skin contact, wash immediately with water and soap.

4.2 Eye Exposure: After eye contact, flush eyes with clean water for at least 15 minutes. Seek immediate medical treatment.

4.3 Inhalation Exposure: After inhalation, remove victim to fresh area immediately. Seek immediate medical treatment.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media: Alcohol resistant foam and dry sand are effective.

5.2 Method: Be sure to extinguish the fire on the windward side in order to avoid eye, nose and throat irritation. Wear respiratory protection equipment.

6. ACCIDENTAL RELEASE MEASURES

6.1 Methods for containment and cleaning up: Take up with absorbent cloth. Treat cloth as inflammable. Move the battery away from the fire.

7. HANDLING AND STORAGE

7.1 Handling: When packing the batteries, do not allow battery terminals to be in contact with each other or with any other metals. Be sure to pack batteries by providing partitions in the packaging box. Alternatively, store in a separate plastic bag to avoid mixing single batteries. Use strong material for packaging to avoid damage. Do not short-circuit, recharge, deform, throw into fire or disassemble. Do not mix different types of batteries. Do not solder directly onto batteries. Insert the battery correctly in electrical equipment.

7.2 Storage: Store in a cool place away from direct sunlight or areas of high temperature. Keep packaging dry. Avoid places of high humidity. Do not expose batteries to condensation, rain or freezing conditions.

8. EXPOSURE CONTROL/PPE

8.1 Personal Protective Equipment:

8.1.1 Respiratory: Wear suitable protective mask in order to reduce the respiratory system. Wear self-contained breathing apparatus.

8.1.2 Eye: Wear safety goggles or eye protection combined with respiratory protection.

8.1.3 Hand: Wear appropriate protective gloves to reduce skin contact.

9. PHYSICAL CHEMICAL PROPERTIES

9.1 Appearance: Cylindrical shape.

9.2 Nominal Voltage: 3V.

10. STABILITY AND REACTIVITY

The batteries utilise a chemical reaction and are therefore considered a chemical product. As such, battery performance will deteriorate over time even if stored over a long period without being used. In addition, varying conditions such as discharge, ambient temperature etc. are not maintained at a stable rate so life expectancy of the battery may be shortened. The device in which the battery is used may also be damaged by electrolyte leakage.

11. TOXOLOGICAL INFORMATION

11.1 Acute toxicity: Oral(rat) LD50 > 2000mg/kg (estimated)

11.2 Irritation: Irritating to the eye and skin.

12. ECOLOGICAL INFORMATION

If the battery is disposed of in land, the battery case may have corroded and therefore may leak electrolyte. There is no further environmental impact information for this.

Mercury (Hg), Cadmium (Cd) and Lead (Pb) are not used in the battery.

13. DISPOSAL CONSIDERATIONS

Once worn, dispose of the battery in adherence to local government guidance and regulations.

14. TRANSPORT INFORMATION

During transportation of large amounts of batteries via ship, trailer or railway, ensure not to leave in places of high temperatures or direct sunlight and avoid exposure to condensation.

During transportation, ensure packages are not dropped or damaged.

14.1 Shipping Name: Lithium metal batteries.

14.2 UN Number/UN Class: UN3090, Class9 (for the Air transport by PI968 Section IA or IB)

Exemption (for the Marine transport and 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 as they meet the following:

1. For cells, the lithium content is not more than 1g.
2. Each cell is the type proven to meet requirements of each test in the UN Manual of Tests and Criteria, Part III, sub section 38.3.
3. Each cell is manufactured in an ISO9001 certified factory.

Please refer to the following information regarding transportation:

Information of reference

	Reference	Packing Instruction(PI)/ Special provision(SP)	Note
Air transport	IATA DGR	PI 968 Section I A	Cells, Cargo Aircraft only; Net quantity per package Max. 35kg
		PI 968 Section I B	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 in equipment
Marine transport	IMDG Code	SP 188	

15. REGULATORY INFORMATION

IATA Dangerous Goods Regulations 60th 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, Authorisation and Restriction of Chemicals (REACH).
State of California Regulations – Best management practices for Perchlorate Materials.
Act on Preventing Environmental Pollution of Mercury (Japan).

16. OTHER 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 situation at the time. For further information, please contact Reliance Medical LTD.

To the best of our knowledge at the date of printing, 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 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.