

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name 9V ALKALINE BATTERY
Synonyms PRODUCT CODE • 9V • ALKALINE ZINC MANGANESE DIOXIDE BATTERIES

1.2 Uses and uses advised against

Uses BATTERIES • BATTERY NON-RECHARGEABLE

1.3 Details of the supplier of the product

Supplier name ENDEAVOUR TOOLS PTY LTD
Address 50 JELLICO DRV, AUSTRALIA VIC 3179
Telephone (03) 9753 3800
Fax (03) 9753 3933
Email sales@endeavourtools.com.au
Website <http://www.endeavourtools.com.au>

1.4 Emergency telephone numbers

Emergency (03) 9753 3800
Poisons Information 13 11 26 Line

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

2.3 Other hazards

The materials contained in this product may only represent a hazard if the integrity of the cell or battery is compromised; physically or electrically abused.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|--|------------|-----------|---------|
| MANGANESE DIOXIDE | 1313-13-9 | 215-202-6 | 33.1% |
| IRON | 7439-89-6 | 231-096-4 | 26.8% |
| ZINC | 7440-66-6 | 231-175-3 | 12.8% |
| POLY(1,4-BUTYLENE TEREPHTHALATE) | 26062-94-2 | - | 10.8% |
| GRAPHITE | 7782-42-5 | 231-955-3 | 1.8% |
| POTASSIUM HYDROXIDE | 1310-58-3 | 215-181-3 | 1.5% |
| NICKEL | 7440-02-0 | 231-111-4 | 0.3% |
| WATER | 7732-18-5 | 231-791-2 | 6.1% |
| BRASS | 12597-71-6 | 603-111-8 | 4.3% |
| POLYHEXAMETHYLENE ADIPAMIDE - NYLON 66 | 32131-17-2 | 608-706-6 | 1.3% |

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FIBER

-

-

1.2%

4. FIRST AID MEASURES

4.1 Description of first aid measures

| | |
|-----------------------------|--|
| Eye | Exposure is considered unlikely unless casing is damaged. Flush gently with running water. Seek medical attention if irritation develops. |
| Inhalation | Exposure is considered unlikely. Due to product form / nature of use, an inhalation hazard is not anticipated. |
| Skin | Exposure is considered unlikely unless casing is damaged. Gently flush affected areas with water. Seek medical attention if irritation develops. |
| Ingestion | For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form. |
| First aid facilities | Normal washroom facilities should be available. |

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

5.2 Special hazards arising from the substance or mixture

Non flammable. May explode if exposed to high temperatures due to pressure build up in battery casing. May evolve hydrogen when heated to decomposition.

5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas. CAUTION: Batteries may explode.

5.4 Hazchem code

None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

If battery casing is damaged and contents released, contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs.

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7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

| Ingredient | Reference | TWA | | STEL | |
|---|-----------|-----|-------------------|------|-------------------|
| | | ppm | mg/m ³ | ppm | mg/m ³ |
| Graphite (all forms except fibres) | SWA [AUS] | -- | 3 | -- | -- |
| Iron oxide fume (Fe ₂ O ₃) (as Fe) | SWA [AUS] | -- | 5 | -- | -- |
| Iron salts, soluble, as Fe | SWA [AUS] | -- | 1 | -- | -- |
| Manganese, dust & compounds (as Mn) | SWA [AUS] | -- | 1 | -- | -- |
| Manganese, fume (as Mn) | SWA [AUS] | -- | 1 | -- | 3 |
| Nickel, metal | SWA [AUS] | -- | 1 | -- | -- |
| Nickel, soluble compounds (as Ni) | SWA [AUS] | -- | 0.1 | -- | -- |
| Potassium hydroxide | SWA [AUS] | -- | 2 (Peak) | -- | -- |

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure controls

Engineering controls Due to product encapsulation and nature of use, natural ventilation should be adequate. Maintain vapour levels below the recommended exposure standard.

PPE

| | |
|--------------------|--|
| Eye / Face | Not required under normal conditions of use. |
| Hands | Not required under normal conditions of use. |
| Body | Not required under normal conditions of use. |
| Respiratory | Not required under normal conditions of use. |

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|----------------------------------|-------------------|
| Appearance | CYLINDRICAL SOLID |
| Odour | SLIGHT ODOUR |
| Flammability | NON FLAMMABLE |
| Flash point | NOT RELEVANT |
| Boiling point | NOT AVAILABLE |
| Melting point | NOT AVAILABLE |
| Evaporation rate | NOT AVAILABLE |
| pH | NOT AVAILABLE |
| Vapour density | NOT AVAILABLE |
| Solubility (water) | INSOLUBLE |
| Vapour pressure | NOT AVAILABLE |
| Upper explosion limit | NOT RELEVANT |
| Lower explosion limit | NOT RELEVANT |
| Partition coefficient | NOT AVAILABLE |
| Autoignition temperature | NOT AVAILABLE |
| Decomposition temperature | NOT AVAILABLE |
| Viscosity | NOT AVAILABLE |
| Explosive properties | NOT AVAILABLE |
| Oxidising properties | NOT AVAILABLE |
| Odour threshold | NOT AVAILABLE |

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

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10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), heat and ignition sources.

10.6 Hazardous decomposition products

May evolve hydrogen when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Batteries consist of a hermetically sealed metallic container containing a number of chemicals and materials of construction that may be hazardous upon release. Over exposure considered unlikely unless battery ruptures and contact with contents occurs. Contents may be harmful.

Information available for the ingredients:

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------------|--------------------------------------|-------------|-----------------|
| MANGANESE DIOXIDE | > 3478 mg/kg (rat) | -- | -- |
| IRON | 30000 mg/kg (rat) | -- | -- |
| POTASSIUM HYDROXIDE | 273 to 1230 mg/kg (rat) | -- | -- |
| NICKEL | > 9000 mg/kg (Sprague-Dawley rat) | -- | -- |

Skin Not classified as a skin irritant unless the battery ruptures. Contact with contents may cause irritation, redness, dermatitis and possible burns with prolonged contact.

Eye Not classified as an eye irritant unless the battery ruptures. Contact with contents may cause irritation, redness and possible burns with prolonged contact.

Sensitisation Not classified as causing skin or respiratory sensitisation.

Mutagenicity Not classified as a mutagen.

Carcinogenicity Not classified as a carcinogen.

Reproductive Not classified as a reproductive toxin.

STOT - single exposure Not classified as causing organ damage from single exposure.

STOT - repeated exposure Not classified as causing organ damage from repeated exposure.

Aspiration Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

This product may be hazardous to the environment if not properly used or disposed of. Do not let internal components enter the marine environment. Avoid release to waterways, wastewater or ground water.

12.2 Persistence and degradability

No information provided.

12.3 Bioaccumulative potential

No information provided.

12.4 Mobility in soil

No information provided.

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12.5 Other adverse effects

No information provided.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal Recycle where possible. Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|------------------------------------|----------------------|----------------------------|-----------------------------|
| 14.1 UN Number | None allocated. | None allocated. | None allocated. |
| 14.2 Proper Shipping Name | None allocated. | None allocated. | None allocated. |
| 14.3 Transport hazard class | None allocated. | None allocated. | None allocated. |
| 14.4 Packing Group | None allocated. | None allocated. | None allocated. |

14.5 Environmental hazards

No information provided.

14.6 Special precautions for user

Hazchem code None allocated.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

Inventory listings **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.
EUROPE:EINECS (European Inventory of Existing Chemical Substances)
All components are listed on EINECS, or are exempt.

16. OTHER INFORMATION

Additional information EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES: Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

WORKPLACE CONTROLS AND PRACTICES: Unless a less toxic chemical can be substituted for a hazardous substance, ENGINEERING CONTROLS are the most effective way of reducing exposure. The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. Isolating operations can also reduce exposure. Using respirators or protective equipment is less effective than the controls mentioned above, but is sometimes necessary.

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PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

| | |
|-------------------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m ³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

[End of SDS]