

PRODUCT SAFETY DATA SHEET

Printing date: NOV 6, 2015
Expiry date: DEC 31, 2015

Reviewed on: NOV 6, 2015

1) Chemical Product and Company Identification

Product name: ALKALINE BATTERY

Chemical name: ALKALINE ZINC-MANGANESE DRY BATTERY

Chemical formula: Zn-MnO₂

Manufactured: for TruForce

Address: P.O. Box 481931 Charlotte, NC 28269

Tel: 866-577-4477 **Fax:** 800-375-2395

2) Composition and information on ingredients:

CHEMICAL NAME	D	C	AA	AAA	9V	CAS NO.
AVERAGE WEIGHT	145.0 g	70.0 g	22.8 g	11.4 g	47.0 g	
ZINC	17.4%	16.9%	16.2%	13.9%	15.45 %	07440-66-6
MANGANESE DIOXIDE	73.09 %	41.97 %	37.57 %	34.31 %	36.46 %	01313-13-9
CARBON	2.93%	2.65%	3.27%	2.95%	3.29%	/
STEEL	22.07 %	21.07 %	20.75 %	25.89 %	24.80 %	/
BRASS	1.10%	1.43%	2.41%	4.56%	3.64%	12597-71-6
PLASTIC	1.17%	1.57%	1.71%	1.75%	1.06%	/
PAPER	0.625 %	0.713 %	0.92%	0.96%	1.21%	/
POTASSIUM HYDROXID	3.66%	4.36%	6.3%	5.6%	5.55%	1310-58-3
WATER	7.03%	7.50%	9.56%	8.51%	5.24%	/
ZINC OXIDE	0.53%	0.50%	0.49%	0.42%	0.45%	1314-13-2
MERCURY	<1ppm	<1ppm	<1ppm	<1ppm	<1ppm	7439-97-6
CADMIUM	<5ppm	<5ppm	<5ppm	<5ppm	<5ppm	7440-43-9
LEAD	<10ppm	<10ppm	<10ppm	<10ppm	<10ppm	7439-92-1
OTHER	0.39%	0.69%	0.82%	1.15%	2.85%	/



3) Hazard Identification

General Advice: The common known rules for handling of chemicals should be obeyed. These chemicals are contained in a sealed steel can. For consumer use, adequate hazard warnings are printed on both the package and the battery. Potential for exposure should not exist unless the battery leaks, is exposed to high temperatures or is mechanically or electrically abused. Concentrated potassium hydroxide contained is caustic. Anticipated potential leakage of potassium hydroxide is 2-20 ml, depending on battery size. Do not ingest batteries. Keep batteries away from small children.

Physical Chemical Hazards: This preparation is not classified as dangerous according to the criteria of directive 99/45/EEC

4) First aid Measures

Inhalation: In case of excessive inhalation due to leaking batteries remove to fresh air. Obtain medical advice.

Skin Contact: If exposed to a leaking battery, remove contaminated clothing. Wash exposed areas with plenty of water and soap. If irritation occurs, consult a physician.

Eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

Ingestion: Not anticipated due to size of batteries. Choking may occur with the smaller size batteries. If exposed to a leaking battery, rinse mouth and surrounding areas with running water for at least 15 minutes. Give plenty of water to drink. Do not induce vomiting. Obtain Medical advice.

5) Fire and Explosion Data

Suitable extinguishing media: Carbon dioxide, foam, dry chemical powder.

Extinguishing media not to be used: Never use a direct water jet.

Exposure hazards from combustion products: In case of fire, carbon monoxide and other toxic organic substances will be generated. Do not inhale fumes and smoke.

Personal protective equipments: Wear full protective clothing. Use self-contained breathing apparatus.

6) Accidental Release Measures

Personal precautions: Notify safety personnel of large spills. Caustic potassium hydroxide may be released from leaking or ruptured batteries. Avoid eye or skin contact and inhalation of vapors. Increase the ventilation. Wear protective clothing. Keep unprotected persons away.

Environmental precautions: Avoid discharge and penetration into sewerage systems, water ways, pits, and cellars.

Methods for cleaning up: Care for well-ventilated conditions. Recycle or dispose of the materials in accordance with all applicable federal, state, and local regulations.



7) Handling and Storage

General Handling: Obey the common known rules and precautions for handling chemicals. Avoid mechanical and electrical abuse. Do not short battery or install incorrectly. Batteries may explode, pyrolyze or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries according to equipment instructions. Do not mix battery systems, such as alkaline and zinc-carbon. Replace all batteries in equipment at the same time. Do not carry batteries loose in pocket or bag. Do not remove any labels.

Storage: Store product in well-filled, appropriate coated and tightly closed containers avoiding influence of oxygen/air, light and humidity. Store batteries at room temperature.

8) Exposure Controls and Personal Protection

Exposition/Technical measures: Atmospheric vapor concentrations must be minimized by adequate ventilation.

Protection of hands, eyes and skin: None required under normal use conditions. When handling leaking batteries, use neoprene, rubber or nitrile gloves and wear safety glasses to protect hands, eyes and skin.

General safety and hygiene measures: use only as directed.

9) Physical and Chemical properties

Physical State: Stainless steel top battery Color: Contents dark and gray in color.

Odor: N.A

Melting Point: N.A

Boiling Point: N.A.

Flash point: N.A.

Explosion limit: Not available

Ignition temperature: Not available

Vapor Pressure: Not available

Specific Gravity: N.A.

Solubility in Water: N.A.

Solubility in other Solvents: N.A

PH value: Not available

Partition Coefficient: Not available

Viscosity: Not available

10) Stability and Reactivity Data

Thermal decomposition: batteries may burst and release hazardous decomposition products when exposed to fire.

Substances to avoid: Strong Oxidation agents.

Hazardous reactions: Contents incompatible with strong oxidizing agents.

Hazardous decomposition products: Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas; caustic vapors of potassium hydroxide and other toxic by-products



11) Toxicological Information

Toxicity information is available on the battery ingredients noted in Section 2. In general, N.A. to intact batteries. Chronic health effects: N.A.

12) Ecological Information

Issues such as eco-toxicity, persistence and bioaccumulation are not applicable for articles.

13) Disposal Consideration

Dispose in accordance with appropriate regulations. If in doubt, contact your local government office for information. Do not incinerate, since batteries may explode at excessive temperatures.

14) Transport Information

The batteries are securely packed and protected against short-circuits. The “dry battery” is non-dangerous goods according to IMO IMDG CODE and meets shipping standards. These batteries are not regulated by international agencies as hazardous materials or dangerous goods when shipped. A shipping name of “zinc-manganese dry battery” may be used on all domestic and international bills of lading.

15) Other Regulatory Information

Symbol: N/A

EC Labeling: None

Risk phrases: None

Safety phrases: None

Labeling is not required because alkaline batteries are classified as “articles” under the US Department of Transportation or the major international regulatory bodies and are therefore not regulated.

16) Other Information

None.

The information on this Safety Data Sheet (SDS) was obtained from current and reputable sources. As defined in OSHA Hazard Communication Standard, Section 1910.1200 (c), TRUFORCE batteries are manufactured articles, which do not result in exposure to a hazardous chemical under normal conditions of use. The information and recommendations set forth herein are made in good faith, for information only, and are believed to be accurate as of the date of preparation. However, TRUFORCE makes no warranty, either express or implied, with respect to this information and disclaims all liability from reference on it.