

SECTION 3 – COMPOSITION

Chemical Name	CAS No.	Percentage %
Nickel	7440-02-0	10-25%
Lead	7439-92-1	0-0.1 %
Cadmium	7440-43-9	0-28%
Hexavalent Chromium (Cr6+)	18540-29-9	0-0.1 %
Mercury	7439-97-6	0-0.1 %
Polybrominated Biphenyls (PBB's)	59536-65-1	0-0.1 %
Polybromiated Diphenyls Ethers (PBDE's)	NA	0-0.1 %
Ni(OH)2 Nickel Hydroxide	12054-48-7	0-30%
'Non-Hazardous Materials	NA	0-30%
30% KOH Solution (Potassium)	1310-58-3	0-20%
30% NaOH Solution (Sodium)	1310-73-2	0-20%
Iron	7439-89-9	10-34%
Cobalt	7440-48-4	0-1.1%
Cadmium Hydroxide	21041-95-2	11-28%
Nylon	24937-16-4	0-.2%
Steel	12597-68-1	11-14%

SECTION 4 – FIRST AID MEASURES

Inhalation	If exposed to fumes or dust; get fresh air. If symptoms persist seek medical attention.
Eyes Contact	Flush with copious quantities of flowing lukewarm water for a minimum of 15 minutes; get immediate medical attention.
Skin Contact	Flush with copious quantities of flowing lukewarm water for a minimum of 15 minutes; wash with soap and water
Ingestion	Ingestion of battery chemicals can be harmful. Call The National Battery Ingestion Hotline (202-625-3333) 24 hours a day, for procedures treating ingestion of chemicals. Do not induce vomiting.

SECTION 5 – FIRE-FIGHTING MEASURES

Flash Point – N/A

Auto Ingestion – No Data Available

Extinguisher Media - Use CO₂, foam or dry chemical extinguishers. Sand may also be used.

Special Fire-Fighting Procedures - Wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

In case of accidental rupture or release: prevent skin and eye contact and collect all released material in a plastic lined metal container. Leaking batteries should be handled with gloves. Wear protective clothing. Use a self-contained breathing apparatus if in the presence of chemical vapor. See also: sections 4, 5, and 8.

SECTION 7 – HANDLING AND STORAGE

Handling – Do not disassemble. Do not short circuit. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices.

Storage - Store batteries under roof in cool, dry, well-ventilated areas separated from incompatible materials and from activities that may create flames, spark or heat. Do not store unpacked cells together: avoid cells shorting to one another – especially in a charged state. Do not mix new and used batteries. Keep away from metallic objects that could bridge the terminals on a battery and create a dangerous short-circuit.

Charging – Use manufacturer’s recommendations charger. Improper charging can cause damage and even high pressure rupture. Do not install with incorrect polarity.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation Requirements – Not necessary under normal conditions.

Respiratory Protection (NIOSH/MSHA approved) - None required under normal handling conditions. In case of venting, provide fresh air, ventilation, and use a self-contained breathing apparatus.

Eye Protection – Not necessary under normal conditions.

Skin Protection – Not necessary under normal conditions. Wear gloves if cell is ruptured, corroded, or leaking materials.

SECTION 9 – PHYSICAL/CHEMICAL PROPERTIES

Boiling Point	NA	Melting Point	NA
Vapor Pressure	NA	Vapor Density	NA
Specific Gravity (H2O=1)	NA	Solubility in Water	NA
Evaporation Rate	NA	pH	NA
Reactivity in Water	NA	Auto-Ignition Temperature	NA
Lower Explosive Limit (LEL)	NA	Upper Explosive Limit (UEL)	NA
Odor Threshold	NA	Viscosity (poise @ 25° C)	NA
Partition Coefficient	NA	Decomposition Temperature	NA
Flash Point	NA		
Appearance and Odor	Cylindrical or button shape, solid object, odorless.		

SECTION 10 – STABILITY & REACTIVITY

Stability - This product is stable under normal conditions at ambient temperature.

INCOMPATIBILITY (MATERIALS TO AVOID) – NA

SECTION 11 – TOXICOLOGICAL INFORMATION

ROUTES AND METHODS OF ENTRY - Skin, Eyes, Ingestion (swallowing).

SIGNS AND SYMPTOMS OF OVEREXPOSURE – None. (In fire or rupture, refer to sections 4, 5, and 8).

MEDICAL CONDITIONS GENERALLY CAUSED BY EXPOSURE - Chemicals may cause burns to skin, eyes, gastrointestinal tract and mucous membranes. Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs.

SECTION 12 – ECOLOGICAL INFORMATION

Hazardous Decomposition Products – NA

Hazardous Polymerization - Will not occur.

Under normal use these batteries do not release internal ingredients into the environment. Damaged or abused batteries may release small amounts of cadmium, nickel or carbon oxides. Do not carelessly discard, as small amounts of cadmium may be released into storm or surface water. Do not discard batteries into a fire. Dispose of properly or recycle.

SECTION 13 – DISPOSAL

Waste Disposal Method - Dispose of properly or recycle in accordance with all Federal, State and local laws and regulations.

SECTION 14 – TRANSPORT

These batteries must be packaged in a way that prevents the dangerous evolution of heat and protects the terminals from short circuit. When properly packaged and labeled, these dry batteries are not subject to dangerous goods regulation for the purpose of transportation and fall under special provision of the agencies listed in Section 15.

SECTION 15 – REGULATORY INFORMATION

IATA Not considered to be 'dangerous goods' when packaged properly
DOT Not considered to be a 'hazardous material' when packaged properly
ICAO Not subject when packaged properly
IMDG Not subject when packaged properly
UN2800 Exempt when packaged properly

SECTION 16 – OTHER INFORMATION

None.

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