



MATERIAL SAFETY DATA SHEET

MSDS-0164
CJ-BATT
REV. DATE: 12/11/92

SECTION I - IDENTIFICATION

PRODUCT (TRADE) NAME: 1.35V Long Life Battery
CHEMICAL FAMILY: Mercuric Oxide-Zinc

SUPPLIER: OMEGA ENGINEERING INC.
PO BOX 4047
STAMFORD, CT 06907

DATE PREPARED: 3/19/91
SUPERSEDES: None

TELEPHONE: (203) 359-1660

SECTION II - HAZARDOUS INGREDIENTS

IMPORTANT NOTE: The battery should not be opened or burned since the following ingredients contained within, or their discharge or combustion products could be harmful under some circumstances if exposed.

MATERIAL OR INGREDIENT	PEL (OSHA)	TLV (ACGIH)	%/wt.
Manganese Dioxide (CAS# 1313-13-9)	5mg/m3 Ceiling (as Mn)	5mg/m3 TWA (as Mn)	0-15
Mercury (CAS# 7439-97-6)	0.05mg/m3 TWA (as Hg vapor) 0.1 mg/m3 Ceiling (as Hg)	0.05mg/m3 TWA (as Hg vapor) 0.1mg/m3 TWA (Hg inorganic)	0.3-1.5
Mercury Oxide (CAS# 21908-53-2)	0.05mg/m3 TWA (as Hg vapor) 0.1mg/m3 Ceiling (as Hg)	0.05mg/m3 TWA (as Hg vapor) 0.1mg/m3 TWA (Hg inorganic)	20-50
Potassium Hydroxide (CAS# 1310-58-3)	2mg/m3 Ceiling	2mg/m3 Ceiling	0-6
Sodium Hydroxide (CAS# 1310-73-2)	2mg/m3 Ceiling	2mg/m3 Ceiling	0-6
Zinc (CAS# 7440-66-6)	15mg/m3 TWA (total dust as nuisance particulate) 5mg/m3 TWA (respirable fraction as nuisance particulate)	10mg/m3 TWA (total dust as nuisance particulate)	5-15

This sheet is provided for your information only. This battery is an article and, as such, is not subject to the OSHA Hazard Communication Standard requirement for preparation of a material safety data sheet.



SECTION III - FIRE AND EXPLOSION HAZARD DATA

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus. Battery contains mercury and mercuric oxide which produce highly toxic mercury vapors under fire conditions.

SECTION IV - HEALTH HAZARD DATA

Under normal conditions of use, the battery is hermetically sealed.

Swallowing: Ingestion of a battery can be harmful.

Contents of an opened battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract. Contents include highly toxic mercuric oxide which can cause abdominal pain, vomiting, diarrhea, liver and kidney damage, and central nervous system disorders.

In either case, do not induce vomiting nor give food or drink. Seek medical attention immediately. CALL NATIONAL BATTERY INGESTION HOTLINE for advice and follow-up (202-625-3333) collect, day or night.

Inhalation: Contents of an opened battery can cause respiratory irritation. Provide fresh air and call a doctor.

Skin Contact: Contents of an opened battery can cause skin irritation and/or chemical burns. Mercuric oxide can cause delayed burns and skin sensitization. Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

Eye Contact: Contents of an opened battery can cause severe irritation and chemical burns. Immediately flush eyes thoroughly with water for at least 15 minutes. Seek medical attention.

SECTION V - PRECAUTIONS FOR SAFE HANDLING AND USE

Storage: Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

Mechanical Containment: If potting or sealing the battery in an airtight or watertight container is required, consult your OMEGA Engineering representative for precautionary suggestions. Batteries normally evolve hydrogen which, when combined with oxygen from the air, can produce a combustible or explosive mixture unless vented. If such a mixture is present, short circuits, high temperature, or static sparks can cause an ignition.

Do not obstruct safety release vents on batteries. Encapsulation (potting) of batteries will not allow cell venting and can cause high pressure rupture.



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Handling: Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, and can cause the safety release vent to open. 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.

If soldering or welding to the battery is required, consult your OMEGA Engineering representative for proper precautions to prevent seal damage or short circuit.

Charging: This battery is manufactured in a charged state. It is not designed for recharging. To do so can cause battery leakage or, in some cases, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards.

Labeling: If the normal OMEGA Engineering label or package warnings are not visible, it is important to provide a package or device label stating:

WARNING: DO NOT OPEN BATTERY, DISPOSE IN FIRE, RECHARGE, PUT BACKWARDS, MIX WITH USED BATTERIES OR OTHER BATTERY TYPES - MAY EXPLODE OR LEAK AND CAUSE PERSONAL INJURY.

Where accidental ingestion of small batteries is possible, include the label:

WARNING: (1) KEEP AWAY FROM SMALL CHILDREN. IF SWALLOWED PROMPTLY SEE DOCTOR. HAVE DOCTOR PHONE (202) 625-3333 COLLECT. (2) DO NOT OPEN BATTERY, DISPOSE IN FIRE, RECHARGE, PUT IN BACKWARDS, MIX WITH USED BATTERIES OR OTHER BATTERY TYPES - MAY EXPLODE OR LEAK AND CAUSE PERSONAL INJURY.

Disposal: Dispose in landfill or appropriate incineration facility in accordance with all applicable federal, state and local regulations.

SECTION VI - SPECIAL PROTECTION INFORMATION

Ventilation Requirements: Not necessary under normal conditions.

Respiratory Protection: Not necessary under normal conditions.

Eye: Not necessary under normal conditions. Wear safety glasses with side shields if handling an open or leaking battery.

Gloves: Not necessary under normal conditions. Use neoprene or natural rubber gloves if handling an open or leaking battery.



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SECTION VII - REGULATORY INFORMATION

SARA/TITLE III - As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right-To-Know Act.

Notice: The information and recommendations set forth above are made in good faith and are believed to be accurate as of the date of preparation. However, OMEGA ENGINEERING, INC. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM RELIANCE ON IT.

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