
SECTION 1 - IDENTIFICATION

PRODUCT (TRADE) NAME: Dry Charge Battery

CHEMICAL FAMILY/CLASSIFICATION: Electric Storage Battery

DATE PREPARED: 11/93

SUPERSEDES: --

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

TELEPHONE: (203) 359-1660

SHIPPING NAME (UN NUMBER PER TRANSPORTATION AUTHORITY):

DOT: Dry batteries (containing no electrolyte) are not regulated by DOT
as hazardous material.

IATA: UN 2800 (Batteries, wet, non-spillable, electric storage)

EMERGENCY RESPONSE TELEPHONE NUMBERS:

(800) 255-3924 (813) 979-0626

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

COMPONENTS	CAS NUMBER	% BY WT.	AIR EXPOSURE LIMITS (ug/m3)		
			OSHA	ACGIH	NIOSH
Inorganic Lead Compound:					
Lead	7439-92-1	53	50	150	100
Antimony	7440-36-0	0.2	500	500	--
Arsenic	7440-38-2	0.003	10	200	--
Calcium	7440-70-2	0.02	--	--	--
Tin	7440-31-5	0.06	2000	2000	--
Case Material:		5-6	N/A	N/A	N/A
Polypropylene	9003-07-0				
Hard Rubber					

SECTION 3 - PHYSICAL DATA

LEAD:
BOILING POINT (760 mm Hg): Greater than 2516 degrees F
SPECIFIC GRAVITY (H2O = 1): 9.6 to 11.3
MELTING POINT: 486 to 680 degrees F
VAPOR DENSITY/PRESSURE: NA

SOLUBILITY IN WATER: Negligible
EVAPORATION RATE/% VOL.: NA
APPEARANCE AND ODOR: Bluish gray metal: no apparent odor.

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Inorganic lead compound is not a combustible material, nor will it explode under conditions of normal use.

FLASH POINT: Not Applicable

FLAMMABLE LIMITS: LEL: 4.1% (Hydrogen Gas) UEL: 74.2%

EXTINGUISHING MEDIA: CO2 foam; dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Wear full body protective clothing and self-contained breathing apparatus with positive pressure and full facepiece.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Highly flammable hydrogen gas is generated during charging and operation of batteries. To avoid risk of fire or explosion, keep sparks or other sources of ignition away from batteries. Do not allow metallic materials to simultaneously contact negative and positive terminals of cells and batteries. Follow manufacturer's instructions for installation and service.

SECTION 5 - REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: Prolonged overcharge; sources of ignition.

INCOMPATIBILITY (MATERIALS TO AVOID): Lead compounds: Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen and reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Lead compounds: High temperatures likely to produce toxic metal fume, vapor or dust; contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.

SECTION 6 - HEALTH HAZARD DATA

ROUTES OF ENTRY: Lead compounds: Hazardous exposure can occur only when product is heated, oxidized or otherwise processed or damaged to create dust, vapor or fume.

INHALATION: Lead compounds: Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.

INGESTION: Lead compounds: Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea and severe cramping. This may lead rapidly to systemic toxicity and must be treated by a physician.

SKIN CONTACT: Lead compounds: Not absorbed through the skin.

EYE CONTACT: Lead compounds: May cause eye irritation.

EFFECTS OF OVEREXPOSURE - ACUTE: Lead compounds: Symptoms of toxicity include headache, fatigue, abdominal pain, loss of appetite, muscular aches and weakness, sleep disturbances and irritability.

EFFECTS OF OVEREXPOSURE - CHRONIC: Lead compounds: Anemia, neuropathy, particularly of the motor nerves, with wrist drop; kidney damage; reproductive changes in both males and females.

CARCINOGENICITY: Lead compounds: Listed as a 2B carcinogen, likely in animals at extreme doses. PROOF OF CARCINOGENICITY IN HUMANS IS LACKING AT PRESENT.

Arsenic: Listed by National Toxicology Program (NTP), International Agency for Research on Cancer (IARC), OSHA and NIOSH as a carcinogen only after prolonged exposure at high levels.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Lead and its compounds can aggravate some forms of kidney, liver and neurologic diseases.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Lead: Remove from exposure, gargle, wash nose and lips; consult physician.

INGESTION: Lead: Consult physician immediately.

SKIN: Lead: Wash immediately with soap and water.

EYES: Lead: Flush immediately with large amounts of water for at least 15 minutes: consult physician.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

SPILL OR LEAK PROCEDURES: Lead dust should be vacuumed or wet-swept; use controls which minimize fugitive emissions; do NOT use compressed air.

WASTE DISPOSAL METHODS: Spent batteries: Send to secondary lead smelter for recycling.

Place neutralized slurry into sealed containers and dispose of as hazardous waste, as applicable. Large water-diluted spills, after neutralization and testing, should be managed in accordance with approved local, state and federal requirements. Consult state environmental agency and/or federal EPA.

(b) Supplier Notification: This product contains toxic chemicals which may be reportable under EPCRA Section 313 Toxic Chemical Release Inventory (Form R) requirements. If you are a manufacturing facility under SIC codes 20 through 39, the following information is provided to enable you to complete the required reports:

TOXIC CHEMICAL	CAS NUMBER	% BY WEIGHT
Lead	7439-92-1	53
* Antimony	7440-36-0	0.2
* Arsenic	7440-38-2	0.003

If you distribute this product to other manufacturers in SIC Codes 20 through 39, this information must be provided with the first shipment of each calendar year.

NOTE: The Section 313 supplier notification requirement does not apply to batteries which are "consumer products".

* Not present in all battery types.

TSCA: Ingredients in batteries are listed in the TSCA Registry as follows:

INORGANIC LEAD COMPOUND	CAS NUMBER	TSCA
Lead (Pb)	7439-92-1	Listed
Lead Oxide (PbO)	1317-36-8	Listed
Lead Sulfate (PbSO4)	7446-14-2	Listed
Antimony (Sb)	7440-36-0	Listed
Arsenic (As)	7440-38-2	Listed
Calcium (Ca)	7440-70-2	Listed
Tin (Sn)	7440-31-5	Listed

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HANDLING AND STORAGE: Store batteries in cool, dry, well-ventilated areas with impervious surfaces and adequate containment in the event of spills. Batteries should also be stored under roof for protection against adverse weather conditions. Separate from incompatible materials. Store and handle only in areas with adequate water supply and spill control. Avoid damage to containers. Keep away from fire, sparks and heat.

PRECAUTIONARY LABELING:

POISON - CAUSES SEVERE BURNS

SECTION 8 - CONTROL MEASURES

ENGINEERING CONTROLS: Store and handle in well-ventilated area.

WORK PRACTICES: Handle batteries cautiously to avoid spills. Make certain vent caps are on securely. Avoid contact with internal components. Wear protective clothing when filling or handling batteries.

RESPIRATORY PROTECTION: None required under normal conditions.

PROTECTIVE GLOVES: Wear rubber or plastic acid-resistant gloves with elbow-length gauntlet when filling batteries.

EYE PROTECTION: Use chemical goggles or face shield when filling or handling batteries.

OTHER PROTECTION: Wear coveralls or full-body covering during use. When filling batteries use acid-resistant apron. Under sever exposure or emergency conditions, wear acid-resistant clothing and boots.

SECTION 9 - OTHER REGULATORY INFORMATION

RCRA: Dry charge/spent lead-acid batteries are not regulated as hazardous waste when recycled.

ADDITIONAL DATA: Refer to the latest revision of the OSHA general Industry Standards, 29 CFR 1910. Information about the hazardous ingredients contained in lead compounds are shown in Subpart Z - Toxic and Hazardous Substances: antimony is discussed in 1910.1000, air contaminants; inorganic arsenic is covered in the Inorganic Arsenic Standard, 1910.1018; and inorganic lead is covered in the Inorganic Lead Standard, 1910.1025.

CERCLA (Superfund) and EPCRA:

(a) EPCRA Section 312 Tier 2 reporting is required for non-automotive batteries if lead is present in quantities of 10,000 lbs. or more.