

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION		
MANUFACTURER Exide Technologies 13000 Deerfield Parkway, Bldg. 200 Alpharetta, GA 30004	CHEMICAL/TRADE NAME (as used on label)	Dry Battery (No electrolyte added)
FOR INFORMATION Primary: MACTEC Engineering and Consulting, Inc. Attention: DeLyn Thompson (770) 421-3364 Secondary: Environmental Safety & Health Attention: Fred Ganster (610) 921-4052	CHEMICAL FAMILY/ CLASSIFICATION	Electric Storage Battery
FOR EMERGENCY CHEMTREC (800) 424-9300 24-hour Emergency Response Contact Ask for Environmental Coordinator	DATE ISSUED:	February 24, 2005 Page 1 of 4
II. HAZARDOUS INGREDIENTS/IDENTITY INFORMATION		

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		Approximate Air Exposure Limits (µg/m ³)			
Components	CAS Number	% by Wt.	OSHA	ACGIH	NIOSH
Inorganic compounds of:					
Lead	7439-92-1	92-93	50	50	50
Antimony	7440-36-0	0.2	500	500	500
Tin	7440-31-5	0.06	2000	2000	2000
Calcium	7440-70-2	0.02	-	-	-
Arsenic	7440-38-2	0.003	10	10	2
Case Material:					
Polypropylene	9003-07-0	6-8	N/A	N/A	N/A
Hard Rubber	-				

NOTE: Inorganic lead and electrolyte (water and sulfuric acid solution) are the primary components of every battery manufactured by Exide Technologies or its subsidiaries. Other ingredients may be present dependent upon battery type. Polypropylene is the principal case material of automotive and commercial batteries.

III. PHYSICAL DATA - ELECTROLYTE (ALLOYS AND COMPOUNDS)			
Boiling Point (760 mm Hg)	Greater than 2516° F	Specific Gravity (H ₂ O=1)	9.6 to 11.3
Melting Point	486 to 680°F	Vapor Pressure (mm Hg) 77° F	Not Applicable
Solubility in Water	Negligible	Vapor Density (AIR=1)	Not Applicable
Evaporation Rate (Butyl acetate=1)	Less Than 1	% Volatiles by Weight	Not Applicable
Appearance and Odor	Bluish gray metal; no apparent odor		

IV. 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:	Not Applicable
Extinguishing media:	Any extinguishing media may be used.
Special Fire Fighting Procedures:	Wear full body protective clothing and self-contained breathing apparatus with positive pressure and full face piece.

IV. FIRE AND EXPLOSION HAZARD DATA (CONTINUED)

Unusual Fire and Explosion Hazards:

To avoid risk of fire or explosion, keep sparks or other sources of ignition away from batteries and do not allow metallic materials to simultaneously contact negative and positive terminals of cells and batteries. Follow manufacturer's instructions for installation and service.

Molten metals produce fume, vapor, and/or dust that may be toxic and/or respiratory irritants.

V. REACTIVITY DATA

Stability: Stable X
Unstable ___

Conditions to Avoid: Prolonged overcharge at high current; sources of ignition; water damaged.

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: Temperatures above the melting point are 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.

VI. HEALTH HAZARD DATA

Routes of Entry:

Lead compounds: Hazardous exposure can occur only when product is heated above the melting point, 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.

VI. HEALTH HAZARD DATA (CONTINUED)

Emergency and First Aid Procedures:

Inhalation:

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

Ingestion:

Lead compounds: Consult physician immediately.

Skin:

Lead compounds: Wash immediately with soap and water.

Eyes:

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

VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storage:

Store batteries under roof in cool, dry, well-ventilated areas that are separated from incompatible materials and from activities that may create flames, spark, or heat. Batteries should also be stored under roof for protection against adverse weather conditions. Store and handle only in areas with adequate water supply. Avoid damage to containers.

Spill or Leak Procedures:

Lead dust or particulate should be vacuumed (using HEPA filter) or wet-swept; use controls that minimize fugitive emissions; do NOT used compressed air. Place in dry, closed containers for disposal or recycling.

Waste Disposal Methods:

Material should be recycled at a secondary lead smelter.

Dispose of toxic substances in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA.

Precautionary Labeling:

POISON - CAUSES SEVERE BURNS

VIII. CONTROL MEASURES

Engineering Controls and Work Practices:

Store and handle in a dry, well-ventilated area. Handle batteries cautiously. Make certain that 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 severe exposure or emergency conditions, wear acid-resistant clothing and boots.

IX. OTHER REGULATORY INFORMATION

U.S. DOT:

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

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.

IX. OTHER REGULATORY INFORMATION (CONTINUED)

CERCLA (Superfund) and EPCRA:

- (a) EPCRA Section 312 Tier Two reporting is required for non-automotive batteries if lead is present in quantities of **10,000 lbs** or more.
- (b) **Supplier Notification:** This product contains toxic chemicals that may be reportable under EPCRA Section 313 Toxic Chemical Release Inventory (Form R) requirements. For a manufacturing facility under SIC codes 20 through 39, the following information is provided to enable you to complete the required reports:

<u>Toxic Chemical</u>	<u>CAS Number</u>	<u>Approximate % by Weight</u>
Lead	7439-92-1	53
*Antimony	7440-36-0	0.2
*Arsenic	7440-38-2	0.003

*Not present in all battery types. Contact your Exide representative for additional information.

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 that are "consumer products".

TSCA:

Ingredients in Exide's batteries are listed in the TSCA Registry as follows:

	<u>CAS NO.</u>	<u>TSCA Status</u>
Inorganic Lead Compound		
Lead (Pb)	7439-92-1	Listed
Lead Oxide (PbO)	1317-36-8	Listed
Lead Sulfate (PbSO ₄)	7446-14-2	Listed
Calcium (Ca)	7440-70-2	Listed
Tin (Sn)	7440-31-5	Listed
Silver (Ag)	7440-22-4	Listed
Aluminum (Al)	7429-90-5	Listed

CAA:

Exide Technologies supports preventative actions concerning ozone depletion in the atmosphere due to emissions of CFC's and other ozone depleting chemicals (ODC's), defined by the USEPA as Class I substances. Pursuant to Section 611 of the Clean Air Act Amendments (CAAA) of 1990, finalized on January 19, 1993, Exide established a policy to eliminate the use of Class I ODC's prior to the May 15, 1993 deadline.

CANADIAN REGULATIONS:

All chemical substances in this product are listed on the CEPA DSL/NDSL or are exempt from list requirements.

CALIFORNIA PROPOSITION 65:

"WARNING: This product contains lead, a chemical known to the State of California to cause cancer, or birth defects or other reproductive harm."

PREPARED BY: ENVIRONMENTAL, SAFETY AND HEALTH DEPARTMENT
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