

MATERIAL SAFETY DATA SHEET

1. PRODUCTS AND COMPANY IDENTIFICATION

Chemical / Trade Name: Dry Charge Battery

Manufacturer: XIAMEN YUCELL INDUSTRY LIMITED
7/F, HAIYUN BUILDING, 16 HAISHAN ROAD, XIAMEN, CHINA.

Chemical Family / Classification: Electric Storage Battery (UN No : 2794 ; Class 8)

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2. COMPOSITION / INGREDIENT INFORMATION

Component-Chemical / Common Names	CAS Number	Approximate % by Weight or Volume	Approximate Air Exposure Limits (ug/m ³)		
			OSHA PEL/TWA	ACGIH TLV/TWA	NIOSH
Inorganic Lead Compound:					
* Lead	7439-92-1	89-92	50	50	100
* Tin	7440-31-5	0.006	2000	2000	--
* Arsenic	7440-38-2	0.003	10	10	--
* Calcium	7440-70-2	0.002	--	--	--
* Antimony	7440-36-0	0.2	500	500	--
Case Material:		5-6	N/A	N/A	N/A
Polypropylene	9003-07-0				
Polystyrene	9003-53-6				
Styrene Acrylonitrile	9003-54-7				
Polycarbonate	--				
Hard Rubber	--				
Polyethylene	--				
Acrylonitrile Butadiene Styrene	9003-56-9				
Styrene Butadiene	9003-55-8				
Polyvinylchloride	9002-86-2				

3. HAZARDS IDENTIFICATION

Potential Health Effects:
Routes of Entry: Hazardous exposure can occur only when product is heated, oxidized or otherwise or otherwise processed or damaged to create lead dust, vapor or fume

Skin: Not readily absorbed through the skin.

Eyes: Dust, fume or vapor may cause irritation.

Ingestion: Lead 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.

Inhalation: Dust, fume and vapor may be absorbed by the respiratory system and can result in both acute and chronic overexposure as well as respiratory irritation.

Acute Health Hazards: Symptoms of lead toxicity include headache, fatigue, abdominal pain, and loss of appetite, muscular aches and weakness, sleep disturbances and irritability.

Medical Conditions Generally Aggravated by Exposure: Lead and its compounds can aggravate some forms of kidney, liver and neurological diseases. Children and pregnant women must be protected from lead exposure. Persons with kidney disease may be at increased risk of kidney failure.

Chronic Health Hazards: Lead absorption may cause nausea, weight loss, abdominal spasms, fatigue, and pain in arm, legs and joints. Other effects may include central nervous system damage, kidney dysfunction, anemia, neuropathy, particularly of the motor nerves, with wrist drop, and potential reproductive effects.

Addition Information: No health effects are expected related to normal use this product as sold.

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Ingestion:	Consult your physician immediately.
Skin:	Wash immediately with soap and a lot of water.
Eyes:	Flush immediately with a lot of water for at least 15 minutes; consult your physician.
Inhalation:	Remove from the exposure, gargle, wash nose and lips; consult your physician.

5. FIRE FIGHTING MEASURES

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

Flash Point:	N/A
Lower Explosive Limit (LEL):	N/A
Upper Explosive Limit (UEL):	N/A
Extinguishing Media:	Dry chemical, carbon dioxide, foam
Unusual Fire and Explosion Hazards:	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 instruction for installation and service.
Special Fire Fighting Procedures & Protective Equipment:	Use fully body protective clothing and self-contained breathing apparatus with positive pressure and full face.
Additional Information:	Firefighting water runoff and dilution water may be toxic and corrosive and may cause adverse environmental impacts.

6. ACCIDENTAL RELEASE MEASURES

Environmental Precautions:	Prevent spilled material from entering the sewers and waterways.
Spill or Leak Procedures:	Lead dust should be vacuumed or wet swept into a D.O.T. approved container. Use controls that minimize fugitive emissions; do not use compressed air. Contract local or state environmental officials for proper disposal requirement.
Personal Precautions:	Avoid contact of lead with skin. Wash hands thoroughly after handling product.
Other Precautions:	Refer to material Safety Data Sheet for Lead Acid Battery when battery is filled with electrolyte/battery acid.

7. HANDLING AND STORAGE

Handling and Storage:	• Store batteries in cool, dry, well-ventilated area on an impervious surface. • Batteries should also be stored under roof for protection against adverse weather conditions. • Do not allow conductive material to touch both of the battery terminals. A short circuit may occur and may cause battery failure and fire. • Keep away from fire, sparks and heat. • If battery case is broken, do not touch the internal components. • Place cardboard between layers of stacked batteries to avoid damage and short circuits.
Incompatibility (Materials to Avoid):	Avoid contact with strong bases, acids, combustible organic materials, halides, halogenated, potassium nitrate, permanganate, peroxides, nascent hydrogen, reducing agents and water.

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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Skin Protection:	Wear acid-resistant gloves as a standard procedure to prevent skin contact.
Eye Protection:	Wear protective glasses with side shields or chemical goggles or face shield.
Work Practices:	Handle batteries cautiously, do not tip to avoid spills (if filled with electrolyte). Avoid contact with internal components. Wear protective clothing when filling or handling batteries. Wash hands after handling.
Respiratory Protection:	Not required under normal conditions. See special firefighting procedures (Section 5).
Engineering Controls:	Store and charge in well-ventilated area. Normal ventilation is acceptable.
Other Protective Clothing or Equipment:	None required under normal use conditions when handling dry batteries.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Manufactured article.
Odor:	Odorless.
Lead:	
Boiling Point:	Greater than 2516°F
Melting Point:	486 to 680°F.
Solubility In Water:	Insoluble
Evaporation Rate:	N/A
(Butyl acetate=1)	
Specific Gravity (H ₂ O=1):	9.6-11.3
Vapor Pressure/Density:	N/A
% Volatiles By Weight:	N/A
Appearance and odor:	Bluish gray metal, no apparent odor

10. STABILITY AND REACTIVITY

Hazardous Polymerization:	Will not occur.
Hazardous Decomposition Products:	High temperatures of lead compounds will likely produce toxic metal fume, vapor or dust; contact with strong acid/base or presence of nascent hydrogen may generate highly toxic arsine gas.
Stability:	This product is stable under normal conditions at ambient temperature.
Conditions to Avoid:	Prolonged overcharge and any sources of ignition.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity Lead Compounds:	Lead is listed by IARC as a 2B carcinogen, likely in animals at extreme doses; possible carcinogen in humans.
Carcinogenicity 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.
Acute Toxicity Lead:	No data available for elemental lead.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity (for LEAD)	No data available.
Degradability:	Lead is persistent in soils and sediments. No data available on biodegradation.

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13. DISPOSAL CONSIDERATIONS

Waste Disposal/RCRA: Used lead-acid batteries are not regulated as hazardous waste by the EPA when recycled, however state and international regulations may vary.

14. TRANSPORT INFORMATION

Aircraft-ICAO-IATA: The international Air Transport Association (IATA) as a hazardous material does NOT regulate the international transportation of dry batteries.

Vessel-IMO-IMDG: The international transportation of dry batteries is NOT regulated by the international by the international Maritime Dangerous Goods Code (IMDG) as a hazardous material.

Ground-US DOT: The transportation of dry batteries (those batteries that contain no electrolyte or residue) is NOT regulated by the U.S. Dot as a hazardous material.

15. REGULATORY INFORMATION

CERCLA (Superfund) and EPCRA:

- (a) EPCRA Section 312 Tier 2 reporting is required for batteries if sulfuric acid is present in quantities of 500lbs or more and/or if lead is present in quantities of 10,000lbs or more.
- (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	Approximate % by Wt.
* Lead	7439-92-1	90
* Antimony	7440-36-0	0.2
* Arsenic	7440-38-2	0.003

* Not present in all battery types. Contact your PR Battery 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.

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

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

Components	CAS Number	TSCA Status
Inorganic Lead Compound:		
Lead (Pb)	7439-92-1	Listed
Lead Oxide (PBO)	1917-36-8	Listed
Lead Sulfate (PbSO ₄)	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

16. ADDITIONAL INFORMATION

Refer to the latest revision of the OSHA General Industry Standards, 29 CFR 1910 for the following:

- Information about the hazardous ingredients contained in lead compounds is shown in Subpart Z – Toxic and Hazardous Substances.
- Antimony is discussed in 1910.1000, air contaminants.
- Inorganic arsenic is covered in the Inorganic Lead Standard, 1910.1018.
- Inorganic lead is covered in the Inorganic Lead Standard, 1910.1025.

Disclaimer:

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