



# LEAD ACID BATTERY MATERIAL SAFETY DATA SHEET

## SECTION 1 - COMPANY IDENTIFICATION

**Distributor:** Hi-Tec Oils

**Emergency contact:** General Manager

Phone: 1300 796 009

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Address: 5 Tarlington Place, Smithfield NSW 2164

Website: www.hi-tecbatteries.com.au

## SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

C.A.S.	PRINCIPALHAZARDOUSCOMPONEN T(S) (chemical & common name(s))	Hazard Category	%	ACGIH TLV	OSHA PEL-TWA
7439-92-1	Lead/Lead Oxide/Lead Sulfate	Acute-Chronic	50-70%	0.05 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>
7440-36-0	Antimony	Chronic	0-5%	0.5 mg/m <sup>3</sup>	0.5 mg/m <sup>3</sup>
7440-38-2	Arsenic	Acute-Chronic	< 1%	0.01 mg/m <sup>3</sup>	0.01mg/m <sup>3</sup>
7664-93-9	Sulfuric Acid (Battery Electrolyte)	Reactive-Oxidizer Acute-Chronic	20-35%	1.0 mg/m <sup>3</sup>	1.0 mg/m <sup>3</sup>
7440-70-2	Calcium	Reactive	< 0.15%	Not established	Not established
7440-31-5	Tin	Chronic	< 0.3%	2.0 mg/m <sup>3</sup>	2.0 mg/m <sup>3</sup>

NOTE: PEL's for individual states may differ from OSHA PEL's. Check with local authorities for the applicable state PEL's.

OSHA - Occupational Safety and Health Administration; ACGIH - American Conference of Governmental Industrial Hygienists; NIOSH - National Institute for Occupational Safety and Health.

COMMON NAME: (Used on label) Maintenance-free Batteries

(Trade Name & Synonyms) Lead-Acid Storage Battery, With Acid

Chemical Family: Toxic and Corrosive Material Mixture

Chemical Name: Lead-Acid Storage Battery Formula: Lead and Acid (electrolyte)

**Declare:** Maintenance Batteries,With **Acid(Electrolyte)** and doesnot Hg ;

**NOTE** :before using ,immit Battery Sulfuric Acid (Battery Electrolyte)Density must equal to1.28 (25°C)

## SECTION 3 - HAZARD IDENTIFICATION

Components	Density	Melting Point	Solubility(in H <sub>2</sub> O)	Odor	Appearance
Lead	11.34	327.4°C	None	None	Silver-Gray Metal
Lead Sulfate	6.2	1170°C	40 mg/l (15°C)	None	White Powder

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Lead Dioxide	9.4	290°C	None	None	Brown Powder
Fiberglass Separator	N/A	N/A	Slight	Toxic	White Fibrous Glass Membrane
Container (ABS or PP)	N/A	N/A	NONE	No Odor	Solid Plastics

## 1. Classification of the substance or mixture (GHS)

Substances and mixtures, which in contact with water, emit flammable gases, categories 2

Acute toxicity (oral, dermal, inhalation) categories 1

Skin corrosion categories 1

Serious eye damage category 1

Carcinogenicity categories 1A

Germ cell mutagenicity categories categories 2

Reproductive toxicity categories 1A

Specific Target Organ Toxicity - Single exposure categories 1

Specific Target Organ Toxicity - Repeated exposure categories 1

## 2. GHS Label elements

### 1) Pictogram



### 2) GHS Signal word : Danger

### 3) GHS Hazard statements

H261 In contact with water releases flammable gas

H314 Cause severe skin burns and eye damage

H318 Causes serious eye damage

H330 Fatal if inhaled

H341 Suspected of causing genetic defects

H350 May cause cancer

H360 May damage fertility or the unborn child

H370 Causes damage to organs

H372 Causes damage to organs through prolonged or repeated exposure

### 4) GHS Precautionary statements

P201 Obtain special instructions before use

P202 Do not handle until all safety precautions have been read and understood

P223 Do not allow contact with water

P231 + P232 Handle under inert gas. Protect from moisture.

P260 Do not breathe dust/fume/gas/mist/vapour/spray

P264 Wash ... thoroughly after handling

P270 Do not eat, drink or smoke when using this product

P271 Use only outdoors or in a well-ventilated area

P280 Wear protective gloves/protective clothing/eye protection/face protection

P281 Wear protective gloves/protective clothing/eye protection/face protection

P284 [In case of inadequate ventilation] wear respiratory protection

## SECTION 4 - FIRST AID MEASURES

Emergency and First Aid Procedures	Contact with internal components if battery is opened/broken.
1. Inhalation	Remove to fresh air and provide medical oxygen/CPR if needed. Obtain medical attention.
2. Eyes	Immediately flush with water for at least 15 minutes, hold eyelids open. Obtain medical attention.
3. Skin	Flush contacted area with large amounts of water for at least 15 minutes. Remove contaminated clothing and obtain medical attention if necessary.
4. Ingestion	Do not induce vomiting. If conscious drink large amounts of water/milk. Obtain medical attention. Never give anything by mouth to an unconscious person.

### GHS First aid measure

P301 + P330 + P331 If SWALLOWED : Rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 If ON SKIN(or hair) : Take off immediately all contaminated clothing.

Rinse skin with water/shower

P304 + P340 IF INHALED : IF INHALED : Remove person to fresh air and keep comfortable for breathing

P305 + P351 + P338 IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P307 + P311 Immediately call a POISON CENTER/doctor/...

P308 + P313 IF exposed or concerned : Get medical advice/attention.

P310 Immediately call a POISON CENTER/doctor/

P314 Get medical advice/attention if you feel unwell.

P320 Specific treatment is urgent.

P321 Specific treatment.

P335 + P334 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire : Use ... to extinguish.

## SECTION 5 - FIREFIGHTING MEASURES

Components	Flash Point	Explosive Limits	Comments

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Lead	None	None	
Hydrogen	259°C	4% - 74.2%	Emit hydrogen only if over charged (Voltage>2.4 VPC). To avoid the chance of a fire or explosion, keep sparks and other sources of ignition away from the battery. Extinguishing Media: Dry chemical, Foam, CO2
Fiberglass Separator	N/A	N/A	Toxic vapors may be released. In case of fire: wear self-contained breathing apparatus.
ABS	None	N/A	Danger: Vapors may cause Flash Fire. Harmful or Fatal if Swallowed. Vapor Harmful.
PP	None	N/A	Temperatures over 300 °C (572°F) may release combustible gases. In case of fire: wear positive pressure self-contained breathing apparatus.

Flash Point Not Applicable	Flammable Limits in Air % by Volume (When charging) Hydrogen (H <sub>2</sub> ) Lower 4.1% Upper 74.2%	Extinguisher Media Class ABC, CO <sub>2</sub> , Halon	Auto-Ignition Temperature Polypropylene 675° F
Special Fire Fighting Procedures	Lead-acid batteries do not burn or burn with difficulty. Do not use water on fires where molten metal is present. Extinguish fire with agent suitable for surrounding combustible materials. Cool exterior of battery if exposed to fire to prevent rupture. The acid mist and vapors generated by heat or fire are corrosive. Use NIOSH approved self-contained breathing apparatus (SCBA) and full protective equipment operated in positive-pressure mode.		
Unusual Fire and Explosion Hazards	Hydrogen gas and sulfuric acid vapors are generated upon overcharge and polypropylene case failure. Ventilate charging areas as per ACGIH Industrial Ventilation: A Manual of Recommended Practice and National Fire Code, 1980 Vol. 1, P. 12, B-9, 10. Hydrogen gas may be flammable or explosive when mixed with air, oxygen, and chlorine. Avoid open flames/sparks/other sources of ignition near battery. 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. SULFURIC ACID REACTS VIOLENTLY WITH WATER/ORGANICS.		

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Procedures for Cleanup:** Stop release, if possible. Avoid contact with any spilled material. Contain spill, isolate hazard area, and deny entry. Limit site access to emergency responders. Neutralize with sodium bicarbonate, soda ash, lime or other neutralizing agent. Place battery in suitable container for disposal. Dispose of contaminated material in accordance with applicable local, state and federal regulations. Sodium bicarbonate, soda ash, sand, lime or other neutralizing agent should be kept on-site for spill remediation.

**Personal Precautions:** Acid resistant aprons, boots and protective clothing. ANSI approved safety glasses with side shields/face shield recommended. Ventilate enclosed areas.

**Environmental Precautions:** Lead and its compounds and sulfuric acid can pose a severe threat to the environment. Contamination of water, soil, and air should be prevented.

## SECTION 7 - HANDLING AND STORAGE



Precautions to be Taken in Handling and Storage	Keep away from flames during and immediately after charging. Combustion or overcharging may create or liberate toxic and hazardous gases and liquids including hydrogen, sulfuric acid mist, sulfur dioxide, sulfur trioxide, stibine, arsine and sulfuric acid. Store batteries in cool, dry, well-ventilated area. Do not short circuit battery terminals, or remove vent caps during storage or recharging. Protect battery from physical damage.
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#### GHS Storage

P402 + P404 Store in a dry place. Store in a closed container.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

## SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Respiratory Protection (Specify Type)	Acid gas NIOSH approved respirator is required when the PEL is exceeded or employee experiences respiratory irritation. When exposure levels are unknown or when firefighting, wear a self-contained breathing apparatus with a full facepiece operated in positive pressure mode				
Ventilation	Must be provided when charging in an enclosed area. Change air every 15 min.	Local Exhaust	When PEL is exceeded.	Mechanical (General)	Normal mechanical ventilation recommended for stationary applications.
Protective Gloves	Wear rubber or plastic acid resistant gloves with elbow length gauntlet when filling batteries.		Eye Protection	ANSI approved safety glasses with side shields/face shield recommended. Safety goggles.	
Other Protective Clothing or Equipment	Ventilation as described in the Industrial Ventilation Manual produced by the American Conference of Governmental Industrial Hygienists, shall be provided in areas where exposures are above the PEL or TLV specified by OSHA or other local, state and federal regulations. Acid-resistant rubber or plastic apron, boots and protective clothing. Safety shower and eyewash.				

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Percent Volatile by Volume (%)	Melting Point Polypropylene > 320° F
Without Acid	x Vapor Density Hydrogen (Air = 1): 0.069 At STP
	Evaporation Rate Not Applicable
Solubility in Water Appearance and Odor	Battery: Polypropylene or hard rubber case, solid; may be contained within an outer casing of aluminum or steel. Case has metal terminals. Lead (internal): Gray, metallic, solid; Brown/grey oxide

## SECTION 10 - STABILITY AND REACTIVITY



Stability	Unstable Stable	Conditions to Avoid	High temperatures - cases decompose at <320°F. Avoid overcharging and smoking, or sparks near battery surface and rapid overcharge.
Incompatibility (Materials to Avoid)	Sparks, Open flames, Keep battery case away from strong oxidizers.		
Hazardous Decomposition Products	An explosive hydrogen/oxygen mixture within the battery may occur during charging. Combustion can produce carbon dioxide (CO <sub>2</sub> ) and carbon monoxide (CO). Molten metals produce fumes and/or vapor that may be toxic or respiratory irritants.		
Hazardous Polymerization	May Occur	Will Not Occur	Do not overcharge

## SECTION 11 - TOXICOLOGICAL INFORMATION

**GENERAL:** The primary routes of exposure to lead are ingestion or inhalation of dust and fumes.

### ACUTE:

**INGESTION/INHALATION:** Exposure to lead and its compounds may cause headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia, and pain in the legs, arms and joints. Kidney damage, as well as anemia, can occur from acute exposure.

### CHRONIC:

**INHALATION/INGESTION:** Prolonged exposure to lead and its compounds may produce many of the symptoms of short-term exposure and may also cause central nervous system damage, gastrointestinal disturbances, anemia, and wrist drop. Symptoms of central nervous system damage include fatigue, headaches, tremors, hypertension, hallucinations, convulsions and delirium. Kidney dysfunction and possible injury has also been associated with chronic lead poisoning. Chronic over-exposure to lead has been implicated as a causative agent for the impairment of male and female reproductive capacity, but there is, at present, no substantiation of the implication. Pregnant women should be protected from excessive exposure. Lead can cross the placental barrier and unborn children may suffer neurological damage or developmental problems due to excessive lead exposure in pregnant women.

## SECTION 12 - ECOLOGICAL INFORMATION

In most surface water and groundwater, lead forms compounds with anions such as hydroxides, carbonates, sulfates, and phosphates and precipitates out of the water column. Lead may occur as sorbed ions or surface coatings on sediment mineral particles or may be carried in colloidal particles in surface water. Most lead is strongly retained in soil, resulting in little mobility. Lead may be immobilized by ion exchange with hydrous oxides or clays or by chelation with humic or fulvic acids in the soil. Lead (when in the dissolved phase) is bioaccumulated by plants and animals, both aquatic and terrestrial.

## SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal	Lead-acid batteries are completely recyclable. Return whole scrap batteries to distributor, manufacturer or lead smelter for recycling. Methods for information on returning batteries to Concorde for recycling call+86 0710
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7617594. For neutralized spills, place residue in acid-resistant containers with sorbent material, sand or earth and dispose of in accordance with local, state and federal regulations for acid and lead compounds. Contact local and/or state environmental officials regarding disposal information.
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#### GHS Disposal

P501 Dispose of contents/container to ... in accordance with local/regional/national/international regulations (to be specified).

### SECTION 14 - TRANSPORT INFORMATION

UN DOT PROPER SHIPPING NAME: Batteries, wet, non-spillable electric storage

CNA. DOT HAZARD CLASS: 8

U.S. DOT ID NUMBER: UN 2794

U.S. DOT PACKING GROUP: III

U.S. DOT LABEL: Corrosive

IMO PROPER SHIPPING NAME: Batteries, wet, filled with acid

IMO U.N. CLASS: 8

IMO U.N. NUMBER: UN 2794

IMO LABEL: Corrosive

IMO VESSEL STOWAGE: A Ems # - F-A, S-B

IATA PROPER SHIPPING NAME: Batteries, wet, filled with acid

IATA U.N. CLASS: 8

IATA U.N. NUMBER: UN 2794

IATA LABEL: Corrosive ERG Code: 8L

### SECTION 15 - REGULATORY INFORMATION

U.S. Hazardous Under Hazard Communication Standard:      Lead - YES  
Antimony - YES      Arsenic - YES

Ingredients Listed on TSCA Inventory:      YES

CERCLA Section 304 Hazardous Substances:      Lead – YES      RQ: NA\*  
Antimony – YES      RQ: 1000 pounds RQ: 5000 pounds  
Arsenic – YES      RQ: 1 pound

\*Reporting not required when diameter of the pieces of solid metal released is equal to or exceeds 100 micrometers.

EPCRA Section 302 Extremely Hazardous Substance:

EPCRA Section 313 Toxic Release Inventory:      Lead - CAS NO: 7439-92-1  
Antimony - CAS NO: 7440-36-0      Arsenic - CAS NO: 7440-38-2



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## SECTION 16 - OTHER INFORMATION

All information, recommendations, and suggestions in this MSDS, concerning our products are based on tests and data believed to be reliable, it cannot be guaranteed. Since the actual use by others is beyond our control it is the users responsibility to determine the safety, toxicity and suitability for their own use of the product described herein.

**STANDARD: GB12268-2005 EQUAL TO IMDG Code** 2004,第3204套修正案)

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