



# MATERIAL SAFETY DATA SHEET

Form # 853024H  
 Revised: 09/30/11  
 Supersedes: 07/26/11  
 ECO # 1001061

## I. PRODUCT IDENTIFICATION

**Chemical Trade Name (as used on label):**  
 Nonspillable Lead-Acid Battery

**Chemical Family/Classification:**  
 Electric Storage Battery

**Manufacturer's Name/Address:**

Hawker  
 P.O. Box 808  
 9404 Ooltewah Industrial Drive  
 Ooltewah, TN 37363

**Telephone:**

For information and emergencies, contact Hawker's  
 Environmental, Health & Safety Dept. at 423-238-5700 ATTN: Craig Allison

**24-Hour Emergency Response Contact:**

CHEMTREC DOMESTIC: 800-424-9300 CHEMTREC INT'L: 703-527-3887

## II. HAZARDOUS INGREDIENTS/IDENTIFY INFORMATION

Components	CAS Number	Approximate % by Wt. Or Vol.	Air Exposure Limits (ug/m <sup>3</sup> )		
			OSHA	ACGIH	NIOSH
<b>Inorganic Lead Compound:</b>					
Lead	7439-92-1	45 - 60	50	150	100
* Lead Dioxide	1309-60-0	15 - 25	50	150	100
* Antimony	7440-36-0	2	500	500	--
* Arsenic	7440-38-2	0.2	10	200	--
* Calcium	7440-70-2	0.2	--	--	--
* Tin	7440-31-5	0.2	2000	2000	--
<b>Electrolyte (Sulfuric Acid)</b>	7664-93-9	10-30	1000	1000	1000
<b>Case Material:</b>					
Polypropylene	9003-07-0	5-10	N/A	N/A	N/A
Polystyrene	9003-53-6				
Styrene Acrylonitrile	9003-54-7				
Acrylonitrile Butadiene Styrene	9003-56-9				
Styrene Butadiene	9003-55-8				
Polyvinylchloride	9002-86-2				
Polycarbonate, Hard Rubber, Polyethylene	--				
<b>Other:</b>					
Silicon Dioxide (Gel batteries only)	7631-86-9	20-40	N/A	N/A	N/A
Sheet Molding Compound (Glass reinforced polyester)	--		N/A	N/A	N/A

Inorganic lead and electrolyte (sulfuric acid) are the primary components of every battery manufactured by Hawker.  
 Other ingredients may be present dependent upon battery type. Contact your Hawker representative for additional information.

## III. PHYSICAL DATA

<b>Electrolyte:</b>			
<b>Boiling Point:</b>	203 - 240° F	<b>Specific Gravity (H<sub>2</sub>O = 1):</b>	1.215 to 1.350
<b>Melting Point:</b>	N/A	<b>Vapor Pressure (mm Hg):</b>	10
<b>Solubility in Water:</b>	100%	<b>Vapor Density (AIR = 1):</b>	Greater than 1
<b>Evaporation Rate: (Butyl Acetate = 1)</b>	Less than 1	<b>% Volatile by Weight:</b>	N/A
<b>Appearance and Odor:</b>	Manufactured article; no apparent odor. Electrolyte is a clear liquid with a sharp, penetrating, pungent odor.		

## IV. FIRE AND EXPLOSION HAZARD DATA

<b>Flash Point:</b> N/A	<b>Flammable Limits:</b> LEL = 4.1% (Hydrogen Gas)	UEL = 74.2%
<b>Extinguishing Media:</b> CO <sub>2</sub> ; foam; dry chemical		
<b>Special Fire Fighting Procedures:</b>		
If batteries are on charge, shut off power. Use positive pressure, self-contained breathing apparatus. Water applied to electrolyte generates heat and causes it to spatter. Wear acid-resistant clothing.		

### 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.

## V. REACTIVITY DATA

<b>Stability:</b> Stable
<b>Conditions To Avoid:</b> Prolonged overcharge; sources of ignition
<b>Incompatibility: (Materials to avoid)</b>
<b>Sulfuric Acid:</b> Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, sulfur trioxide gas, strong oxidizers and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas.
<b>Lead Compounds:</b> Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen and reducing agents.

### Hazardous Decomposition Products:

**Sulfuric Acid:** Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, and hydrogen.  
**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.

## VI. HEALTH HAZARD DATA

<b>Routes of Entry:</b>
<b>Sulfuric Acid:</b> Harmful by all routes of entry.
<b>Lead Compounds:</b> Hazardous exposure can occur only when product is heated, oxidized or otherwise processed or damaged to create dust, vapor or fume.
<b>Inhalation:</b>
<b>Sulfuric Acid:</b> Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation.
<b>Lead Compounds:</b> Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.
<b>Ingestion:</b>
<b>Sulfuric Acid:</b> May cause severe irritation of mouth, throat, esophagus and stomach.
<b>Lead Compounds:</b> 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.
<b>Skin Contact:</b>
<b>Sulfuric Acid:</b> Severe irritation, burns and ulceration.
<b>Lead Compounds:</b> Not absorbed through the skin.





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IX. OTHER REGULATORY INFORMATION

NFPA Hazard Rating for Sulfuric Acid:

Flammability (Red) = 0
Health (Blue) = 3
Reactivity (Yellow) = 2
Sulfuric acid is water-reactive if concentrated.

U.S. DOT:

Hawker batteries that are classified as Nonspillable have been tested and meet the nonspillable criteria listed in CFR 49, 173.159 (f).
Nonspillable batteries are excepted from CFR 49, Subchapter C requirements, provided that the following criteria are met:
1. The batteries must be securely packed in strong outer packagings and meet the requirements of CFR 49 173.159(a).
2. The batteries' terminals must be protected against short circuit.
3. Each battery and their outer packaging must be plainly and durably marked "NONSPILLABLE" or "NONSPILLABLE BATTERY".
The exception from CFR 49, Subchapter C means shipping papers need not show proper shipping name, hazard class, UN number, and packing group and hazardous labels are not required when transporting a nonspillable battery.
Contact your Hawker representative for additional information regarding the classification of batteries.

IATA:

Hawker batteries that are classified as Nonspillable have been tested and meet the nonspillable criteria listed in IATA Packing Instruction 872 and Special Provision A67. Nonspillable batteries must be packed according to IATA Packing Instruction 872. This means shipping papers need not show proper shipping name, hazard class, UN number, and packing group and hazardous labels are not required when transporting a nonspillable battery.
These batteries are excepted from all IATA regulations provided that the batteries' terminals are protected against short circuits.
Contact your Hawker representative for additional information regarding the classification of batteries.

IMDG:

Hawker batteries that are classified as Nonspillable have been tested and meet the nonspillable criteria listed in Special Provision 238. Non-spillable batteries must be packed according to IMDG Packing Instruction P003. Translates to no proper shipping name, no hazard class, no UN number, no packing group and no hazardous labels when transporting a nonspillable battery.
These batteries are excepted from all IMDG code provided that the batteries' terminals are protected against short circuits per PP16.
Contact your Hawker representative for additional information regarding the classification of batteries.

RCRA:

Spent lead-acid batteries are not regulated as hazardous waste by the EPA when recycled, however state and international regulations may vary.

CERCLA (Superfund) and EPCRA:

- (a) Reportable Quantity (RQ) for spilled 100% sulfuric acid under CERCLA (Superfund) and EPCRA (Emergency Planning Community Right to Know Act) is 1,000 lbs. State and local reportable quantities for spilled sulfuric acid may vary.
(b) Sulfuric acid is a listed "Extremely Hazardous Substance" under EPCRA, with a Threshold Planning Quantity (TPQ) of 1,000 lbs.
(c) EPCRA Section 302 notification is required if 1,000 lbs. or more of sulfuric acid is present at one site. The quantity of sulfuric acid will vary by battery type. Contact your Hawker representative for additional information.
(d) EPCRA Section 312 Tier 2 reporting is required for batteries if sulfuric acid is present in quantities of 500 lbs. or more and/or if lead is present in quantities of 10,000 lbs. or more.
(e) 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:

IX. OTHER REGULATORY INFORMATION (Cont.)

CERCLA (Superfund) and EPCRA:

Table with 3 columns: Toxic Chemical, CAS Number, Approximate % by Wt. Rows include Lead, Sulfuric Acid, Antimony, and Arsenic.

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".
\* Not present in all battery types. Contact your Hawker representative for additional information.

TSCA:

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

Table with 4 columns: Components, CAS Number, TSCA Status. Lists Electrolyte and Inorganic Lead Compound components like Sulfuric Acid, Lead, Lead Oxide, Lead Sulfate, Antimony, Arsenic, Calcium, and Tin.

CAA:

Hawker 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, Hawker established a policy to eliminate the use of Class I ODC's prior to the May 15, 1993 deadline.