

SECTION 1: PRODUCT IDENTIFICATION

Product Name:	Valve-regulated lead-acid battery
Company Name:	Giant Power
Address:	8 Technology Drive, Warana QLD 4575
E-mail:	info@giantpower.com.au
Free call:	1300 877 554

SECTION 2: HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

Components	Approx. % by Wt.	CAS Number	Air Exposure Limits (µg/m ³)			LD50 Oral (mg/kg)
			ACGIH TLV	OSHA	NIOSH	
Inorganic Lead Lead compounds	65-75%	743+-92-1	150	50	10	500
Tin	<0-5%	7440-31-5	2000	2000	--	--
Calcium	<0.1%	7440-70-2	--	--	--	--
Dilute Sulfuric Acid	~20%	7664-93-9	1000	1000	1000	2.14
Fiberglass Separator	~5%	--	--	--	--	--
Case Material: Acrylonitrile Butadine Styrene (ABS)	~5%	9003-56-9	--	--	--	--

SECTION 3: PHYSICAL DATA

Components	Density	Melting/Boiling (M/B) Point	Solubility (H ₂ O)	Odor	Appearance
Lead	11.34	327.46°C, 621.43°F	None	None	Silver-Gray Metal
Lead Sulfate	6.20	1170°C, 2138°F (B)	40mg/l (15°C, 59°F)	None	White crystals or powder
Lead Dioxide	9.40	290°C, 554°F (M)	None	None	Dark brown powder
Sulfuric Acid	~1.3	95°C -115°C, 203°F -240°F (B)	100%	Sharp, penetrating, pungent odor	Clear colourless liquid
Fiberglass Separator	--	--	Slight	None	White Fibrous
Case Material: Acrylonitrile Buta- dine Styrene (ABS)	--	--	None	None	Solid

SECTION 4: FLAMMABILITY DATA

Components	Flash-point	Explosive Limits	Comments
Lead	None	None	None
Sulfuric Acid	None	None	None
Hydrogen	--	LEL = 4.1%	Sealed batteries can emit hydrogen only if over charged (float voltage > 2.4 VPC). The gas enters the air through the vent caps. 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
Fibreglass Separator	--	--	Toxic vapors may be released. In case of fire: wear self-contained breathing apparatus.
Acrylonitrile Butadine Styrene (ABS)	None	--	Temperatures over 300 °C (572°F) may release combustible gases. In case of fire: wear positive pressure self-contained breathing apparatus.

SECTION 5: REACTIVITY DATA

Components	Lead / Lead compounds
Stability	Stable
Incompatibility	Potassium, sodium, carbides, sulfides, peroxides, phosphorus, sulfurs, ketone, ester, petrolatum
Decomposition products	Oxides of lead and sulfur.
Condition to avoid	High temperature, sparks and other sources of ignition.
Components	Sulfuric Acid
Stability	Stable
Incompatibility	Reactive metals, strong bases, most organic compounds
Decomposition products	Sulfuric dioxide, trioxide, hydrogen sulfide, hydrogen
Condition to avoid	Prohibit smoking, sparks, etc. from battery charging area. Avoid mixing acid with other chemicals
POLYMERIZATION	Sulfuric acid will not polymerize

SECTION 6: HEALTH HAZARD DATA

Battery is considered as sealed non-spillable one. Under normal operating conditions, the materials sealed inside should not be hazardous to people's health. Only when these materials exposed during production or under case broken condition or being extremely heated (fired), they may be hazardous to people's health.

Routes of Entry:

Sulfuric Acid: Harmful by all 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:

Sulfuric Acid: Breathing sulfuric acid vapors and mists may cause severe respiratory problems.

Lead Compounds: Dust or fumes may cause irritation of upper respiratory tract or lungs.

Fibreglass Separator: Fiberglass is an irritant to the upper respiratory tract, skin and eyes. For exposure up to 10F°/ use MSA Comfoll with type H filters. Above 10F use Ultra Twin with type H filter. This product is not considered carcinogenic by NTP or OSHA

Skin Contact:

Sulfuric Acid: Severe irritation, burns and ulceration.

Lead Compounds: Not absorbed through the skin.

Routes of Entry:

Sulfuric Acid: Harmful by all 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:

Sulfuric Acid: Breathing sulfuric acid vapors and mists may cause severe respiratory problems.

Lead Compounds: Dust or fumes may cause irritation of upper respiratory tract or lungs.

Fibreglass Separator: Fiberglass is an irritant to the upper respiratory tract, skin and eyes. For exposure up to 10F°/ use MSA Comfoll with type H filters. Above 10F use Ultra Twin with type H filter. This product is not considered carcinogenic by NTP or OSHA

Skin Contact:

Sulfuric Acid: Severe irritation, burns and ulceration.

Lead Compounds: Not absorbed through the skin.

Ingestion:

Sulfuric Acid: May cause severe irritation of the mouth, throat, esophagus, and stomach.

Lead Compounds: May cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. Acute ingestion should be treated by a physician.

Medical Conditions Generally Aggravated by Exposure

Inorganic lead and its compounds can aggravate chronic forms of kidney, liver, and neurological diseases. Contact of battery electrolyte (acid) with the skin may aggravate skin diseases such as eczema and contact dermatitis. Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions.

Emergency and First Aid Procedures

Inhalation

Sulfuric Acid: Remove to fresh air immediately. If breathing is difficult, give oxygen

Lead Compounds: Remove from exposure, gargle, wash nose and lips, consult physician

Ingestion

Sulfuric Acid: Do not induce vomiting, consult a physician immediately.

Lead Compounds: Consult a physician immediately

Eyes

Sulfuric Acid: Flush immediately with water for 15 minutes, consult a physician.

Lead Compounds: Flush immediately with water for 15 minutes, consult a physician

Skin

Sulfuric Acid: Flush with large amounts of water for at least 15 minutes, remove any contaminated clothing. If irritation develops seek medical attention.

Lead Compounds: Wash with soap and water.

SECTION 7: CARCINOGENICITY

Sulfuric Acid: The National Toxicological Program (NTP) and The International Agency for Research on Cancer (IARC) have classified strong inorganic acid mist containing sulfuric acid as a Category 1 carcinogen, a substance that is carcinogenic to humans. The ACGIH has classified strong inorganic acid mist containing sulfuric acid as an A2 carcinogen (suspected human carcinogen). These classifications do not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product, such as overcharging, may result in the generation of sulfuric acid mist.

Lead Compounds: Human studies are inconclusive regarding lead exposure and an increased cancer risk. The EPA and the International Agency for Research on Cancer (IARC) have categorized lead and inorganic lead compounds as a B2 classification (probable/possible human carcinogen) based on sufficient animal evidence and inadequate human evidence.

SECTION 8: PRECAUTIONS FOR SAFE HANDLING AND USE

Spill or Leak Procedures

In case the release occurs, stop flow of material: contain/absorb small spills with dry sand, earth, and vermiculite. If possible, carefully neutralize spilled electrolyte with soda ash, sodium bicarbonate, lime, etc. Wear acid-resistant clothing, boots, gloves, and face shield. Do not allow discharge of unneutralized acid to sewer.

Waste Disposal Method

Spent Batteries - send to secondary lead smelter for recycling. Follow applicable federal, state and local regulations Neutralize as in preceding step. Collect neutralized material in sealed container and handle as hazardous waste as applicable. A copy of this MSDS must be supplied to any scrap dealer or secondary lead smelter with the battery. Or, consult state environment agency and/ or federal EPA.

Handling and Storing

Store batteries in a cool, dry, well ventilated area that are separated from incompatible materials and any activities which may generate flames, sparks, or heat. Keep all metallic articles that could contact the negative and positive terminals on a battery and create a short circuit condition. Battery should be stored under roof for protection against adverse weather conditions. Store and handle only in areas with adequate water supply and spill control. Avoid damage to battery case.

Electrical Safety

Due to the battery's low internal resistance and high power density, high levels of short circuit current can be developed across the battery terminals. Do not rest tools or cables on the battery. Use insulated tools only. Follow all installation instructions and diagrams when installing or maintaining battery systems

Fibreglass Separator

Fibreglass is an irritant to the upper respiratory tract, skin and eyes. For exposure up to 10F°/ use MSA Comfoll with type H filters. Above 10F use Ultra Twin with type H filter. This product is not considered carcinogenic by NTP or OSHA.

SECTION 9: ECOLOGICAL INFORMATION

Lead and its compounds can pose a threat if released to the environment. See Waste Disposal Method in Section 8.

SECTION 10: CONTROL MEASURES

Engineering Controls:

Store and handle in well-ventilated area. If mechanical ventilation is used, components must be acid resistant

Work Practices:

Handle batteries cautiously to avoid damaging the case. Avoid contact with internal components. Do not allow metallic articles to contact the battery terminals during handling.

Respiratory Protection:

None required under normal conditions. When concentrations of sulfuric acid mist are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection

Personal Protection and Equipment: None needed under normal conditions. If battery case is damaged:

- Protective gloves: use rubber or plastic acid-resistant gloves with elbow-length gauntlet.
- Eye protection: use chemical goggles or face shield.
- Other protection: Acid-resistant apron. Under severe exposure or emergency conditions, wear acid –resistant clothing and boots.
- In areas where sulfuric acid is handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with unlimited water supply.

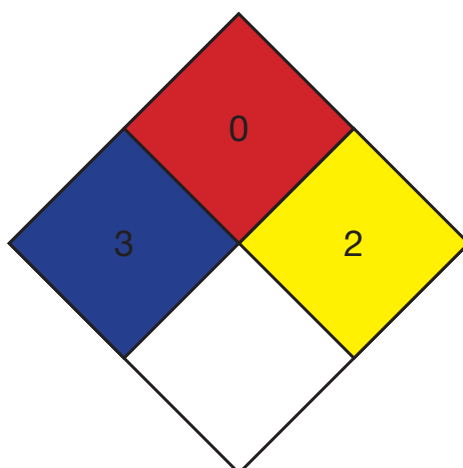
SECTION 11: NFPA HAZARD RATING FOR SULFURIC ACID

A. Not applicable under normal conditions.

B. In case of damage resulting in breakage of the battery container, see section 10, personal protection and equipment.

SECTION 12: NFPA HAZARD RATING FOR SULFURIC ACID

	Flammability	0
	Health	3
	Reactivity	2



SECTION 13: TRANSPORTATION REGULATIONS (Non-Restricted Status)

Proper Shipping Name:

UN2800 — Batteries, wet, Non- Spillable, and electric storage

North America Ground and Air Shipment:

Our non-spillable lead acid batteries are under the U.S. Department of Transportation's (DOT) hazardous materials regulations but are excepted from these regulations since they meet all of the following requirements found at 49 CFR 173.159(d) – NMFC # 60680 Class 65.

- When offered for transport, the batteries are protected against short circuits and securely packaged as required by 49 CFR 173.159(d) (1);
- The batteries and outer packaging are marked with the words NONSPILLABLE BATTERY as required by 49 CFR 173.159(d) (2);
- The batteries comply with the vibration and pressure differential tests found in 49 CFR 173.159(d) (3) and “crack test” found at 49 CFR 173.159(d) (4).

International Shipments

Our non-spillable lead acid batteries also are excepted from the international hazardous materials (also known as “dangerous goods”) regulations since they comply with the following requirements:

- The vibration and pressure differential tests found in Packing Instruction 806 and Special Provision A67 of the International Air Transport Association (IATA) Dangerous Goods Regulations;
- The vibration and pressure differential tests found in Packing Instruction 806 and Special Provision A67 of the International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air;
- The vibration, pressure differential, and “crack” tests found in Special Provision 238.1 and 238.2 of the International Maritime Dangerous Goods (IMDG) Code

SECTION 14: REGULATORY INFORMATION

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 1,000lbs. 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 1,000lbs.

(c) EPCRA Section 302 Notification is required if 1,000lbs. or more of sulfuric acid is present at one site. The quantity of sulfuric acid will vary by battery type. Contact Power-Sonic Corporation for additional information.

(d) EPCRA Section 312 Tier 2 reporting is required for batteries if sulfuric acid is present in quantities of 500lbs. or more and/or lead is present in quantities of 10,00lbs. 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:

Toxic Chemical	CAS Number	Approx. % by Weight
Lead	7439-92-1	60
Sulfuric Acid	7664-93-9	10-30
Arsenic	7440-38-2	<0.01

If you distribute this product to other manufacturers in SIC codes 20 through 39, this information must be provided with the first shipment in a calendar year. The Section 313 supplier notification requirement does not apply to batteries which are “consumer products”. Not present in all battery types. Contact Power-Sonic Corporation for further information.

TSCA

Components	CAS Number	TSCA Status
Electrolyte Sulfuric Acid (H ₂ SO ₄)	7664-93-9	Listed
Inorganic Lead Compound (Pb)	7439-92-1	Listed
Lead Oxide (PbO)	1917-36-8	Listed
Lead Sulfate (PbSO ₄)	7446-14-2	Listed
Calcium (Ca)	7440-70-2	Listed
Tin (Sn)	7440-31-5	Listed
Arsenic (As)	7440-38-2	Listed

SECTION 17: PRODUCT NUMBERS AND DESCRIPTIONS

Product Number	Description
DC-12V-33AH	33AH 12V AGM Deep Cycle Battery
DC-12V-60AH	60AH 12V AGM Deep Cycle Battery
DC-12V-80AH	80AH 12V AGM Deep Cycle Battery
HD-12V-80AH	80AH 12V AGM High Discharge Battery
DC-12V-125AH	125AH 12V AGM Deep Cycle Battery
HD-12V-125AH	125AH 12V AGM High Discharge Battery
DC-12V-135AH	135AH 12V AGM Deep Cycle Battery
DC-12V-165AH	165AH 12V AGM Deep Cycle Battery
DC-12V-280AH	280AH 12V AGM Deep Cycle Battery
DC-2V-270AH	270AH 2V Tubular Gel Battery
DC-2V-450AH	450AH 2V Tubular Gel Battery
DC-2V-790AH	790AH 2V Tubular Gel Battery
DC-2V-1250AH	1250AH 2V Tubular Gel Battery