



TEMPEST

POWER SECURITY BATTERY

Material Safety Data Sheet

Product Identity:

Date: 8/6/09

Sealed Lead Acid

Tempest Power Security Batteries

IMC Power Sources
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San Jose, CA 95112

Phone: 408-924-0800

HAZARDOUS INGREDIENTS	CAS #	OSHA PEL- TWA	% (BY WEIGHT)
Lead	7439-92-1	50µg/m ³	45–60%
Lead Dioxide	1309-60-0	50µg/m ³	15–25%
Sulfuric Acid	766493-9	1.0 mg/m ³	32–40% @ 60°

PHYSICAL & CHEMICAL CHARACTERISTICS

Boiling Point:	(@ 14.7 psia) Approx. 203°C
Specific Gravity:	1.25 to 1.295
Vapor Pressure (mmHg):	10 @ 18°F
Melting Point:	-70°C/-103°F
Solubility in Water	N/A

FIRE & EXPLOSION DATA

Flash point:	Non-combustible
LEL Lower:	Non-combustible
VEL Upper:	Non-combustible
Auto-ignition:	N/A
Extinguisher Medium:	Dry chemical, carbon dioxide, water fog, and water

SPECIAL FIRE FIGHTING PROCEDURES

Sulfuric acid fume, sulfur dioxide gas or carbon monoxide may be released when acid decomposes. Wear NIOSH approved self-contained breathing apparatus. Water applied to sulfuric acid generates heat and causes acid to splatter. Wear full cover sulfuric acid resistant clothing. Sulfuric acid is an electrolyte. Sulfuric acid reacts violently with metals, nitrates, chlorates, carbides, fulminates, pectrates, and other organic materials. Sulfuric acid reacts with most metals to yield explosive/flammable hydrogen gas. This reaction is intensified when acid is diluted, as in electrolyte.

PHYSICAL HAZARDS

Incompatibility:

Contact of sulfuric acid with combustibles and organic materials such as: chlorates, carbides, fulminates, perates, peroxides, nitrates, cyanides, etc. may cause fire and explosion. Also reacts violently with strong reducing agents, metals, sulfur dioxide fume, and may release flammable hydrogen gas; this reaction is intensified when diluted.

Hazardous Decomposition Products:

Decomposition of sulfuric acid releases sulfur trioxide, carbon monoxide, sulfuric acid fumes, and sulfur dioxide. Reaction with above may release with toxic gases, such as hydrogen cyanide or hydrogen sulfide. Decomposition also produces large quantities of heat.

HEALTH HAZARDS

Acute:	Yes
Chronic:	No
Signs and Symptoms of Exposure:	Contact with sensitive skin or prolonged contact with normal skin may cause mild irritation
Medical conditions generally aggravated by exposure:	Irritation, burns, ulceration
Chemicals listed as carcinogens or potential carcinogens:	None
Emergency and First Aid Procedures:	Flush affected area with large amounts of cool, clean water. If redness or blistering occurs, consult a physician.
Proposition 65:	Warning: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer. Wash hands after handling.

ROUTES OF ENTRY

Inhalation:	N/A
Eyes:	Contact may damage corneas. Flush with large amount of cool, clean water. If redness or blistering occurs, consult a physician.
Skin:	See above.
Ingestion:	If ingested, drink large amounts of water. Consult a physician.

SPECIAL PRECAUTIONS & SPILL/LEAK PROCEDURES

Wear appropriate protective clothing and avoid prolonged contact.

IF MATERIAL IS RELEASED OR SPILLED

Clean area in plain water. Wash hands and other skin areas with cool water and mild soap. **DO NOT TOUCH EYES!**

DISPOSAL

Waste Disposal Method	Dispose of in accordance with Federal, State, & Local Regulations. Do not incinerate. Batteries should be shipped to a reclamation facility for recovery of the metal and plastic components as the proper method of waste management. Contact distributor for appropriate product return procedures.
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HAZARDOUS SPECIAL PROTECTION INFORMATION/CONTROL MEASURES

Respiratory Protection:	Not required under normal conditions.
Ventilation:	Not required under normal conditions
Protective Clothing and Equipment:	Acid resistant gloves, safety glasses with side shields, long sleeved shirts, long pants, and closed shoes.

REGULATORY TRANSPORTATION INFORMATION

UN 2800: "Batteries, wet, non-spillable, electric storage." NMFC #60682, Class 60.

GROUND- D.O.T Unregulated, meets the requirements of CFR-49 paragraph 173.159 (d).

AIRCRAFT- I.A.T.A/I.C.A.O. – Unregulated, meets the requirements of Special Provision A67.

VESSEL- IMO – Unregulated.

Other Information**General Product Description – TR Series VRLA Batteries**

Tempest TR Series Batteries are sealed (valve regulated) non-spillable lead-acid batteries with pasted lead-calcium plates. The electrolyte is held captive in an Absorbed Glass Mat (AGM) separator between plates that immobilize the electrolyte in the cell. AGM separator material is a highly porous, absorbent micro fiberglass mat mixed with polymer fibers. There is no "free" electrolyte to leak out if the cell is tipped over (cell case and cover are sealed together) or if the cell is punctured. The AGM separator material immobilizes the electrolyte and creates a situation where the spill of electrolyte is highly unlikely. Typical accidents where a battery case is punctured results in a slight drip or a slow ooze of material out of the cell that cannot be characterized as a spill.

Additional Information

IMC Power Sources, sealed lead acid battery is determined to be an "article" according to the OSHA Hazard Communication Standard and is there by excluded from any requirements of the standard. The Material Safety Data sheet is therefore supplied for informational purposes only.

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