Material Safety Data Sheet

Valve Regulated Lead Acid Battery

"Battery Non-Spillable 49 CFR 173.159 (d)"

SECTION I

Manufacturer's Name:
SEC Industrial Battery Co. Ltd.
Iver, Buckinghamshire
SLO 9AQ – United Kingdom
Tel: 01895 431543

Date: Jan. 2005

Trade Name: Gel!; Absorbed Electrolyte,
CELLYTE 2ETG- OPzV Range
Sealed Valve Regulated Non Spillable Battery

SECTION II
HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components Specific Chemical Identity (Common Name (s))	OSHA PEL	ACGIH TLV	Range Percent By Weight	Average
Lead, CAS #7439921	0.05 mg/m^3	0.05 mg/m^3	60-75%	67%
Sulfuric Acid, CAS #7664939	1.00 mg/m^3	1.00 mg/m^3	5-15%	l0%
Antimony, CAS #7440360	0.50 *mg/m^3*	0.50 mg/m^3	0-0.1%	<0.1%
Arsenic, CAS #7440382	0.01 *mg/m^3*	0.01 mg/m^3	0.01 %	<0.1%
Polypropylene, CAS#9003070	N/A	N/A	2-10%	4%
Calcium, CAS#7440702	1.0 *mg/m^3*	1.0 mg/m^3	0-0.1%	<0.1%
Tin CAS #7440315	2.0 mg/m^3	2.0 mg/m^3	0-0.1%	<0.1%

SECTION III
PHYSICAL/CHEMICAL CHARACTERISTICS

Electrolyte (Sulfuric Acid):
Appearance and Odour: Clear, Odorless, colorless liquid
Boiling Point: 235 – 240^{0}F
Evaporation Rate (Butyl Acetate=1): less than 1.0
Melting Point: N/A

Solubility in Water: 100%
Specific Gravity (H_20 = 1): 1.270 – 1.330
Vapour Density (AIR = 1): Greater than 1
Vapour Pressure (mm Hg): 10

SECTION 1V
FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): Non-Flammable
Extinguishing Media: Class ABC extinguisher,
Flammable Limits: *Hydrogen Gas
LEL: 4% **UEL** 74%
NOTE: CO_2 may be used, but not directly on the cell. The thermal shock may cause cracking of the battery case and/or cases.
*** Hydrogen gas may be generated during battery charging.**

SECTION V
REACTIVITY DATA

Stability: Stable **Condition to Avoid:** Prolonged overcharging, sources of ignition
Incompatibility (Materials to Avoid): Sulfuric Acid: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, strong oxidizers and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas.
Hazardous Decomposition of By-Products: Sulfuric Acid: Excessive overcharging or fire may create Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, and hydrogen.
Lead Compounds: Contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.

SECTION VI
HEALTH HAZARD DATA

Route(s) of Entry: Not Applicable under normal use.

Carcinogenicity:
Sulfuric Acid: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mist containing sulfuric acid" as a Category I carcinogen, a substance that is carcinogenic to humans. This classification does not apply to liquid forms of sulfuric acid 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: Lead is listed as a 2B carcinogen, likely in animals at extreme doses. Proof of carcinogenicity in humans is lacking at present.
Arsenic: Listed by National Toxicology Program (NTP), IARC, OSHA and NIOSH as a carcinogen only after prolonged exposure at high levels.

Signs and Symptoms of Exposure: Avoid contact, with absorbed electrolyte (sulfuric acid) may cause irritation of eyes, nose and throat. Contact with eyes and skin causes irritation and skin burns. Absorbed electrolyte is corrosive.

Medical Conditions Generally Aggravated by Exposure: Pregnant women and children must be protected from lead exposure.

Health Hazards (Acute and Chronic): Do not open battery, avoid contact with internal components. Internal components include lead and absorbed electrolyte. Electrolyte is corrosive and contact may cause skin irritation and chemical burns.

Emergency and First Aid Procedures: (contact with electrolyte)
I) Flush contacted area with large amounts of water for at least 15 minutes. Remove contaminated clothing and obtain medical attention if necessary. Eye wash and/or emergency shower should be readily available.
2) If swallowed, give large volumes of water. **DO NOT** induce vomiting, obtain medical treatment.

SECTION VII
PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled: Electrolyte material is corrosive. Contains sulfuric acid. Neutralize any spilled material. Reference 1996 North American Emergency Response Guidebook, #154.

Waste Disposal Method: Lead-acid batteries are completely recyc1able. For information on disposal consult your local waste disposal business. Dispose of any collected material in accordance with local, state or other applicable regulations.

Precautions to **be Taken in Handling and Storing:** Store away from reactive material as defined in Section V, Reactivity Data. Place cardboard between layers of stacked batteries to avoid damage and short circuit. Do not allow metallic materials to simultaneously contact both terminals.

Other Precautions: If battery case is broken, avoid direct contact with internal components. Keep away from ignition sources during charging.

SECTION VIII
CONTROL MEASURES

Respiratory Protection (Specific Type): N/A

Ventilation: Must be provided when charging in an enclosed area.

Protective Gloves: Recommended

Eye Protection: Recommended

Other Protective Clothing or Equipment: N/A

Work Hygienic Practices: Good Personal hygiene and work practices are recommended.

SECTION IX
OTHER REGULATORY INFORMATION

NFPA Hazard Ratiiw	**Sulfuric Acid**	**Lead**
Health (Blue)	3	3
Flammability (Red)	0	0
Reactivity (Yellow)	2	0

Note: Sulfuric acid is water-reactive if concentrated.

U.S. DOT: The Non-Spillable lead acid battery complies with the provisions listed in *49CFR173.159(d)* therefore must not be marked with an identification number, such as UN2800, or a hazard label, such as corrosive. Also, having passed IATA/ICAAO special provision A67, these batteries are not subject to the air dangerous goods regulations.

RCRA: Spent lead-acid batteries are not regulated as hazardous waste when recycled. Spilled sulfuric acid is a characteristic hazardous waste, EPA hazardous waste number D002 (corrosivity).

CERCLA (Superfund) and EPCRA (Emergency Planning and Community Right to Know ACT)

a) Reportable Quantity (RQ) for spilled 100% sulfuric acid is 1000 lbs.
b) Sulfuric acid is a listed "Extremely Hazardous Substance" under EPCRA with a Threshold Planning Quantity (TPQ) of 1000 lbs.
c) Batteries are subject to EPCRA reporting requirements under sections 302/304, 311/312, and 313.
   Reporting quantities are as follows:
   Lead: section 311/312= 10,000 lbs. Title III section 313 = 100 lbs.
   Sulfuric Acid: section 311/312 = 500 lbs.
   Title III section 313 = 500 lbs.

California Prop 65: Battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. **Wash hands after handling.**

For additional information concerning SEC Industrial Battery Co. products or questions concerning the content of this MSDS please contact your SEC representative.

This information is accurate to the best of SEC Industrial Battery Co.'s knowledge or obtained from sources believed by SEC to be accurate. Before using any product read all warnings and directions on the label.