

MATERIAL SAFETY DATA SHEET

FOR ALL MODELS OF

CASIL SEALED LEAD-ACID BATTERIES

SECTION 1: PRODUCTS & COMPANY IDENTIFICATION

PRODUCT NAME: CASIL VALVE REGULATED SEALED LEAD ACID RECHARGEABLE BATTERY
 SCOPE: ADEMCO/HONEYWELL BATTERY 467/804302 (1.3kg), 712BNP (2.2kg),
 7720BT (0.35kg), K14139 (0.65kg)

MANUFACTURER'S NAME: CHEE YUEN INDUSTRIAL CO., LTD.
 MANUFACTURER'S ADDRESS: CHINA AEROSPACE PARK, ZHONGKAI ROAD
 HUIZHOU, GUANGDONG, CHINA

TELEPHONE NUMBER 852-2389-1156
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SECTION 2: HAZARDOUS COMPONENTS, PHYSICAL DATA, FLAMMABILITY DATA, FIRST AID, REACTIVITY DATA
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HAZARDOUS COMPONENTS

COMPONENTS	%WEIGHT	TLV	LD50 ORAL	LC50 INHALATION	LC50 CONTACT
Lead (Pb, PbO ₂ , PbSO ₄)	About 70%	N/A	(500) mg/Kg	N/A	N/A
Sulfuric Acid	About 20%	1 mg/m ³	(2.140) mg/Kg	N/A	N/A
Fiberglass Separator	About 5%	N/A	N/A	N/A	N/A
ABS	About 5%	N/A	N/A	N/A	N/A

PHYSICAL DATA

COMPONENTS	DENSITY	MELTING POINT	SOLUBILITY (H ₂ O)	ODOR	APPEARANCE
Lead	11.34	327.4°C (Boiling)	None	None	Sliver-Gray Metal
Lead Sulfate	6.2	1070°C (Boiling)	40 mg/l (15°C)	None	White Powder
Lead Dioxide	9.4	290°C (Boiling)	None	None	Brown Powder
Sulfuric Acid	About 1.3	About 114°C (Boiling)	100%	Acidic	Clear Colorless Liquid
Fiberglass Sep.	N/A	N/A	SLIGHT	TOXIC	WHITE FIBROUS GLASS
ABS	N/A	N/A	NONE	NO ODOR	SOLID

FLAMMABILITY DATA

COMPONENTS	FLASHPOINT	EXPLOSIVE LIMITS	COMMENTS
Lead	None	None	
Sulfuric Acid	None	None	
Hydrogen		4% - 74.2%	Sealed batteries can emit hydrogen only if over charged(float voltage > 2.4VPC)
Fiberglass Sep.	N/A	N/A	Poisonous vapors may be released. Please wear self contained breathing apparatus in case of fire.
ABS	None	N/A	Temperatures over 300 °C (572°F) may release combustible

			gases. Wear positive pressure self contained breathing apparatus.
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FIRST AID

SULFURIC ACID PRECAUTIONS

SKIN CONTACT: Flush with water, remove contaminated clothing and seek medical attention if necessary

EYE CONTACT: Flush with water for at least 5 minute and seek medical attention immediately.

Ingestion: Seek medical attention, do not induce vomiting, and flush mouth with water, have the patient drink milk if patient is conscious. Do not give anything to the unconscious person.

REACTICITY DATA

COMPONENT	Sulfuric Acid
STABILITY	Stable at all temperatures
POLYMERIZATION	Will not polymerize
INCOMPATIBILITY	Reactive metals, strong bases, most organic compounds
DECOMPOSITION PRODUCTS	Sulfuric dioxide, trioxide, hydrogen sulfide, hydrogen
CONDITIONS TO AVOID	Prohibit smoking, sparks, etc. from battery charging area. Avoid mixing acid with other chemicals.

SECTION3: SPILL OR LEAK PROCEDURES, PROTECTION, ELECTRICAL SAFETY, HEALTH HAZARD DATA

SPILL OR LEAK PROCEDURES

ACTION TAKEN FOR ACID LEAKAGE

If sulfuric acid is present outside of battery, neutralize the acid with sodium bicarbonate (baking soda), sodium carbon (soda ash), or calcium oxide (lime).

WASTE DISPOSAL METHOD:

Used batteries must be treated as hazardous waste and disposed of in accordance with all local , state and national laws. A copy of this material safety data must be supplied to any scrap dealer or secondary lead smelter.

PROTECTION

EXPOSURE	PROTECTION	COMMENTS
SKIN	Rubber gloves, Apron	Protective equipment must be worn if battery is cracked or otherwise damaged.
RESPIRATORY	Respirator (for lead)	A respirator should be worn during reclaim operations if the TLV exceeded.
EYES	Safety goggles, Face Shield	

ELECTRICAL SAFETY

Due to the battery's low internal resistance and high power density. High levels of short circuit can be developed across the battery terminals. Do not put tools or cables on the battery. Use insulated tools only. Strictly follow all the instruction for installation and diagrams when installing or maintaining battery systems.

HEALTH HAZARD DATA

LEAD: The toxic effects of lead are accumulative and slow to appear. It affects the kidneys, reproductive, and central nervous system.

The symptoms of lead overexposure are anemia, vomiting, headache, stomach pain (lead colic), dizziness, loss of appetite, and muscle and joint pain. Exposure to lead from a battery most often occurs during lead reclaiming operations through the breathing of or ingestion of lead dusts and fumes.

SULFURIC ACID: Sulfuric acid is a strong corrosive. Contact with acid can cause severe burns on the skin and in the eyes.

Ingestion of sulfuric acid will cause GI tract burns.

FIBERGLASS SEPARATOR: Fibrous glass is an irritant of the upper respiratory tract, skin and eyes.

SECTION4: Transportation information

CASIL batteries are classified as "non-spillable" and thusly "non-hazardous" for the purpose of transportation by DOT and IATA/ICAO as a result of passing the Vibration and Pressure differential tests described in DOT 49 CFR 173.159(d) and IATA/ICAO special provision A67.

CASIL batteries can be safely transported on deck or under deck stored on either a passenger or cargo vessel as a result of passing the Vibration and Pressure Differential Tests as described in the regulations.

To transport CASIL batteries as "non-spillable" they must be shipped in a condition that would protect them from short-circuits and be securely packaged as to withstand conditions normal to transportation.

For all modes of transportation, each battery outer package must be labeled "NON-SPILLABLE" as per 49 CFR 173.159 (d). If CASIL battery is repackaged the new packaging must be labeled "NON-SPILLABLE" as per 49 CFR 173.159(d)