

<b>COMPANY INFORMATION:</b> (C&D distributes this product but the MSDS data that follows is supplied by the manufacturer.)	
<b>LIBERTY SERIES</b> <b>FA 12-25, 12-50, 12-100 &amp; 12-150</b> FRONT ACCESS series  <b>24 HOUR EMERGENCY:</b> (CHEM TEL) 1-800-255-3924	<b>C &amp; D Technologies, Inc.</b> <b>1400 Union Meeting Road</b> <b>P. O. Box 3053</b> <b>Blue Bell, PA 19422-0858</b>

Hazardous Components			LD <sub>50</sub>	LD <sub>60</sub>	LD <sub>60</sub>
Component	% Weight	OSHA PEL (TLV)	Oral	Inhalation	Contact
Lead (CAS 7439-82-1) as Pb, PbO <sub>2</sub> , PbSO <sub>4</sub>	65 - 75%	0.050 mg/m <sup>3</sup>	< 500 mg/kg	< 20 mg/m <sup>3</sup>	N/A
Sulfuric Acid (CAS 7664-93-9)	17 - 30%	1 mg/m <sup>3</sup>	2.140 kg/kg	18 mg/m <sup>3</sup>	135 mg/kg

Physical Data					
COMPONENT	DENSITY	MELTING POINT	SOLUBILITY IN WATER	ODOR	APPEARANCE
LEAD	11.39 gm/cm <sup>3</sup>	621F/327.4 C	NONE	NONE	SILVER-GRAY
LEAD SULFATE	6.2 gm/cm <sup>3</sup>	2132F/1167C	49 mg/l	NONE	METAL
LEAD DIOXIDE	9.375 gm/cm <sup>3</sup>	dec.	NONE	NONE	WHITE POWDER
SULFURIC ACID	1.280 gm/cm <sup>3</sup>	554F/ 290C 235F/ 113C	100 %	NONE	BROWN POWDER CLEAR LIQUID

Flammability			
COMPONENT	FLASHPOINT	EXPLOSIVE LIMITS	COMMENTS
LEAD	NONE	NONE	USE ABC TYPE FIRE EXTINGUISHER FOR BATTERY FIRES.
SULFURIC ACID	NONE	NONE	
HYDROGEN	< 0 F	3 % - > 4,2 %	

Transportation Information		
UN OR NA IDENTIFICATION: UN-2794		
PROPER DOT SHIPPING NAME: Batteries, Wet, Filled with Acid, Electric Storage		
HAZARD CLASS: 8	PACKING GROUP: III	LABEL: Corrosive

**HEALTH HAZARD DATA**

LEAD THE TOXIC EFFECTS OF LEAD ARE CUMULATIVE, AND SLOW TO APPEAR. IT AFFECTS THE KIDNEYS, REPRODUCTIVE, AND CENTRAL NERVOUS SYSTEMS. THE SYMPTOMS OF LEAD OVEREXPOSURE ARE ANEMIA VOMITING. HEADACHES, STOMACH PAIN (LEAD COUGH), DIZZINESS, LOSS OF APPETITE AND MUSCLE AND JOINT PAIN. EXPOSURE TO LEAD FROM A BATTERY MOST OF TEN OCCURS DURING THE LEAD RECLAIM OPERATION THROUGH THE BREATHING OR INGESTION OF LEAD DUSTS AND FUMES. THIS SHEET MUST BE PASSED TO ANY SCRAP DEALER OR SMELTER WHEN THE BATTERY IS RESOLD.

**SULFURIC ACID** SULFURIC ACID IS A STRONG CORROSIVE. CONTACT WITH THE ACID CAN CAUSE SEVERE BURNS TO SKIN AND EYES. INGESTION OF SULFURIC ACID WILL CAUSE GASTROINTESTINAL TRACT BURNS. ACID CAN BE RELEASED COMPACT-POWER ONLY IF THE CASE IS DAMAGED OR THE BATTERY IS TAMPERED WITH.

**FIRST AID SULFURIC ACID:** SKIN CONTACT FLUSH WITH WATER, SEE PHYSICIAN IF CONTACT AREA IS LARGE, OR IF BLISTERS FORM. EYE CONTACT CALL PHYSICIAN IMMEDIATELY FLUSH WITH WATER UNTIL PHYSICIAN ARRIVES.

**INGESTION:** CALL PHYSICIAN DO NOT INDUCE VOMITING. DO NOT GIVE ANYTHING TO AN UNCONSCIOUS PERSON.

**California Proposition 65 Warning** – Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. Wash hands after handling.

**REACTIVITY DATA**

**COMPONENT** SULFURIC ACID STABILITY STABLE AT ALL TEMPERATURES POLYMERIZATION WILL NOT POLYMERIZE.

**INCOMPATIBILITY** REACTIVE METALS, STRONG BASES, MOST ORGANIC COMPOUNDS.

**DECOMPOSITION PRODUCTS** SULFUR DIOXIDE, SULFUR TRIOXIDE, HYDROGEN SULFIDE, AND HYDROGEN.

**CONDITIONS TO AVOID** PROHIBIT SMOKING, SPARKS, FLAMES, ETC. FROM BATTERY CHARGING AREA. AVOID MIXING WITH OTHER CHEMICALS.

**SPILL OR LEAK PROCEDURES** IF SULFURIC ACID IS SPILLED FROM A BATTERY, NEUTRALIZE THE ACID WITH SODIUM BICARBONATE (BAKING SODA), SODIUM CARBONATE (SODA ASH) OR CALCIUM OXIDE (LIME). FLUSH THE AREA AND DISPOSE OF AS HAZARDOUS WASTE.

**WASTE DISPOSAL METHOD**

**1)** SPENT LEAD ACID BATTERIES ARE DISPOSED OF USING 3 ACCEPTABLE METHODS: SEND THE BATTERIES TO:

(A) LICENSED SECONDARY LEAD SMELTERS FOR RECYCLING

- (B) REPUTABLE BATTERY HANDLERS
- (C) REPUTABLE SCRAP DEALERS.

**2) IF THE USER HAS TO TRANSPORT THESE BATTERIES TO THE SMELTERS, THE USER MUST FOLLOW DEPARTMENT OF TRANSPORTATION REGULATIONS. A COPY OF THIS MATERIAL SAFETY DATA SHEET MUST BE SUPPLIED TO ANY SCRAP DEALER OR SECONDARY LEAD SMELTER. FOLLOW APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.**

**PROTECTION SKIN:** RUBBER GLOVES, APRON.

RESPIRATORY: PROTECTIVE EQUIPMENT MUST BE WORN. IF THE BATTERY IS CRACKED OR OTHERWISE DAMAGED. HEPA RESPIRATOR SHOULD BE WORN DURING RECLAIM OPERATIONS, IF THE SHAPE IS EXCEEDED.

**EYES:** SAFETY GOGGLES, FACE SHIELD.

**ELECTRICAL SAFETY:** DUE TO THE LOW INTERNAL RESISTANCE OF COMPACT-POWER BATTERIES 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 ANY INSTALLATION INSTRUCTIONS AND DIAGRAMS WHEN INSTALLING OR MAINTAINING BATTERY SYSTEMS.

REVIEWED/REVISED 10/01/2007 Rev. 2 Prepared by: W. Kozlowski