

C AND D CHARTER POWER SYSTEMS, INC. -- FLOODED LEAD-CALCIUM  
BATTERY,DC,LC,KC,XT,MC,JC SERIES -- 6140-01-323-1323

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===== Product Identification =====

Product ID:FLOODED LEAD-CALCIUM BATTERY,DC,LC,KC,XT,MC,JC SERIES

MSDS Date:07/01/1994

FSC:6140

NIIN:01-323-1323

MSDS Number: BYTCN

=== Responsible Party ===

Company Name:C AND D CHARTER POWER SYSTEMS, INC.

Address:3043 WALTON RD, SUITE B

City:PLYMOUTH

MEETING

State:PA

ZIP:19462

Country:US

Info Phone Num:610-828-9000

Emergency Phone Num:610-828-9309/CHEM TEL 800-255-3924

Preparer's Name:P. J. REICH

CAGE:0GRM9

=== Contractor Identification ===

Company Name:C & D TECHNOLOGIES, INC

Address:1400 UNION MEETING ROAD

Box:3053

City:BLUE BELL

State:PA

ZIP:19422-0858

Country:US

Phone:215-619-2700

CAGE:1K126

Company Name:C AND D CHARTER POWER SYSTEMS, INC.

Address:1400 UNION MEETING ROAD

Box:3053

City:BLUE BELL

State:PA

ZIP:19422

Country:US

Phone:215-619

-2700; 610-828-9309  
CAGE:0GRM9  
Company Name:JOHN J. WILSON ASSOCIATES INC.  
Address:3007 LINCOLN AVENUE  
Box:9506  
City:RICHMOND  
State:VA  
ZIP:23228-4209  
Country:US  
Phone:804-266-9623  
CAGE:7L867

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Composition/Information on Ingredients  
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Ingred Name:LEAD (SARA 313) (CERCLA)  
CAS:7439-92-1  
RTECS #:OF7525000  
Fraction by Wt: 62 - 65%  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:SEE 1910.1025  
ACGIH TLV:0.15MG/M3 DUST; 9495  
EPA Rpt Qty:1 LB  
DOT Rpt Qty:1 LB

Ingred Name:SULFURIC  
ACID (SARA 302/313) (CERCLA)  
CAS:7664-93-9  
RTECS #:WS5600000  
Fraction by Wt: 6 - 8%  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:1 MG/M3  
ACGIH TLV:1 MG/M3/3 STEL; 9495  
EPA Rpt Qty:1000 LBS  
DOT Rpt Qty:1000 LBS

Ingred Name:WATER  
CAS:7732-18-5  
RTECS #:ZC0110000  
Fraction by Wt: 12 - 15%  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:NOT RELEVANT  
ACGIH TLV:NOT RELEVANT

Ingred Name:CALCIUM, METAL  
CAS:7440-70-2  
RTECS #:EV8040000  
Fraction by Wt: 1%  
Other REC Limits:NONE RECOMMENDED

Ingred Name:INERT INGRE

**DIENTS/COMPONENTS**

Fraction by Wt: 10 - 18%

Other REC Limits:NONE RECOMMENDED

===== Hazards Identification =====

LD50 LC50 Mixture:LD50 (ORAL, RAT) IS 2140 MG/KG.

Routes of Entry: Inhalation:NO Skin:NO Ingestion:YES

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:TARGET ORGANS:EYE, SKIN, CNS, LUNG, GI TRACT. ACUTE- LEAD MAY CAUSE GI UPSET, DIARRHEA, CRAMPING & FATIGUE. SULFURIC ACID MAY CAUSE EYE, SKIN & RESPIRATORY TRACT

IRRITATION, BURNS, CORNEAL & LUNG DAMAGE. CHRONIC- LEAD MAY CAUSE ANEMIA, KIDNEY & NERVOUS SYSTEM DAMAGE. ACID CAN CAUSE BRONCHITIS, EROSION OF TOOTH ENAMEL.

Explanation of Carcinogenicity:NONE

Effects of Overexposure:GI UPSET, LOSS OF APPETITE, DIARRHEA, CONSTIPATION, CRAMPING, LACK OF SLEEP, FATIGUE, EYE, SKIN AND RESPIRATORY TRACT IRRITATION, BURNS, CORNEAL AND LUNG DAMAGE

Medical Cond Aggravated by Exposure:LEAD AND ITS COMPOUNDS CAN AGGRAVATE CHRONIC FORMS OF

KIDNEY, LIVER AND NEUROLOGIC DISEASES.

CONTACT OF SULFURIC ACID WITH SKIN MAY AGGRAVATE DISEASES SUCH AS ECZEMA. ACID MIST AGGRAVATES LUNG DISEASE

===== First Aid Measures =====

First Aid:OBTAIN MEDICAL ATTENTION IN ALL CASES OF EXPOSURE.

EYES/SKIN:FLUSH WITH WATER FOR 15 MINUTES. KEEP EYELIDS OPEN.

INHALATION:MOVE TO FRESH AIR. INGESTION:DO NOT INDUCE VOMITING. IF CONSCIOUS, DRINK LARGE AMOUNT OF WATER OR MILK.

===== Fire Fighting Measures =====

Flash Point:NON-FLAMMABLE

Extinguishing Media:USE CARBON DIOXIDE, SAND, HALON/DRY CHEMICAL. WATER APPLIED TO ELECTROLYTE GENERATES HEAT AND CAUSES IT TO SPATTER.

Fire Fighting Procedures:WEAR ACID-RESISTANT CLOTHING AND NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE MODE.

Unusual Fire/Explosion Hazard:BATTERY CELLS MAY RUPTURE WHEN EXPOSED TO EXCESSIVE HEAT. THIS COULD RESULT

T IN RELEASE OF CORROSIVE  
MATERIALS. HYDROGEN GAS, IF PRESENT, IS EXPLOSIVE/FLAMMABLE.

===== Accidental Release Measures =====

Spill Release Procedures:WEAR PROTECTIVE EQUIPMENTS. REMOVE  
COMBUSTIBLES & IGNITION SOURCES (H2 MAY BE PRESENT). CONTAIN BY  
DIKING AND COVER SPILL WITH SODA ASH OR QUICKLIME. MIX WELL. CHECK  
THAT MIXTURE IS NEUTRAL. COLLECT AND PLACE IN A DRUM. DO NOT FLUSH  
TO SEWER.

Neutralizing Agent:SODA ASH (SODIUM CARBONATE), QUICKL  
IME (CALCIUM  
OXIDE)

===== Handling and Storage =====

Handling and Storage Precautions:STORE NEAR EYEWASH FOUNTAIN AND SAFETY  
SHOWER. STORAGE AREA SHOULD BE EQUIPPED WITH A DRAIN WHICH CAPTURES  
SPILLS OF ACID FOR PROPER DISPOSAL.

Other Precautions:KEEP TERMINALS COVERED. AVOID SHORTING BATTERIES. DO  
NOT CRACK OR OVERCHARGE BATTERIES. KEEP LIGHTED CIGARETTES, SPARKS,  
AND FLAMES AWAY FROM CHARGING BATTERIES. KEEP OUT OF REACH OF  
CHILDREN.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:NOT REQUIRED UNDER NORMAL USE. USE  
NIOSH-APPROVED ACID-MIST FILTER RESPIRATOR IF 1 MG/M3 TWA IS  
EXCEEDED (ACID).

Ventilation:ADEQUATE GENERAL VENTILATION

Protective Gloves:RUBBER

Eye Protection:SPLASH-PROOF CHEMICAL GOGGLES

Other Protective Equipment:RUBBER APRON AND BOOTS. EYES WASH STATION  
AND SAFETY SHOWER. USE ACID-PROOF CLOTHING FOR MAJOR SPILLS.

Work Hygienic Practices:REMOVE METALLIC  
JEWELRY-SHOCK POTENTIAL. WASH

THOROUGHLY AFTER HANDLING AND BEFORE EATING AND DRINKING.

Supplemental Safety and Health

===== Physical/Chemical Properties =====

HCC:C1

NRC/State Lic Num:NOT RELEVANT

Spec Gravity:NOT RELEVANT

Viscosity:NOT RELEVANT

Evaporation Rate & Reference:NOT RELEVANT

Solubility in Water:NOT RELEVANT

Appearance and Odor:BATTERY CONTAINING SULFURIC ACID AND LEAD.

===== Stability and Reactivity Data =====

Stabili

ty Indicator/Materials to Avoid: YES

COMBUSTIBLES, ORGANIC MATERIALS, METALS, REDUCING AGENTS, SULFUR TRIOXIDE, WATER, BASES

Stability Condition to Avoid: HIGH HEAT, OPEN FLAMES, OVERCHARGING, SMOKING, SPARKS

Hazardous Decomposition Products: LEAD OXIDE, HYDROGEN, SULFUR DIOXIDE, SULFUR TRIOXIDE, METAL FUMES

===== Disposal Considerations =====

Waste Disposal Methods: DISPOSE AS HAZARDOUS WASTE. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS FOR ACID OR LEAD SCRAP.

SEND BATTERIES TO LEAD SMELTER FOR RECLAMATION FOLLOWING APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

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