Material Safety Data Sheet

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Section I: Chemical Product and Company Identification

Product Name:	Gelled Electrolyte Battery / AlphaCell 220/195 GOLD-HP, 220/195/165 GXL, 85 GXL-HP
Trade Name:	Lead Acid battery
Manufacturers Name:	C & D Technologies, Inc.
Address:	1400 Union Meeting Road Blue Bell, PA 19422
Tel (Day time): Tel (Toll Free): North America 24-Hour Emergency (CHEM TEL): International 24-Hour Emergency (CHEM TEL):	414-967-6500 800-365-7777 800-255-3924 813-248-0585

Section II: Composition / Information on Ingredients

Material	CAS Number	OSHA PEL	ACGIH TLV	% By Weight
Specific Chemical Identity: LEAD Common Name: GRID	7439-92-1	50 µg/m^3	150 µg/m^3	50
Specific Chemical Identity: Sulfuric Acid (40%) Common Name: Battery Electrolyte (Acid)	7664-93-9	1 mg/m^3	1 mg/m^3 STEL	22
Specific Chemical Identity: Lead Dioxide Common Name: Lead Oxide	1309-60-0	50 µg/m^3	150 µg/m^3	21
Specific Chemical Identity: Lead Sulfate Common Name: Anglesite	7446-14-2	50 µg/m^3	150 µg/m^3	<1
Common Name: Amorphous Silica	7631-86-9	5 mg/m^3	10 mg/m^3	20-30% of acid wt.

NOTE: The Contents of this product are toxic chemicals that are subject to the reporting requirements of section 302 and 313 of the Emergency Planning and Community Right-To-Know Act of 1986

Section III: Hazardous Identification

Appearance and Odor: Gelled electrolyte is a clear to cloudy liquid. Lead is metallic gray in color. Formed lead dioxide is a dark brown in color with a slightly acidic odor.

Routes of entry:

Sulfuric Acid: Inhalation, skin, ingestion

Lead: Inhalation and ingestion. Ingestion of lead occurs by hand to mouth contamination. After handling lead or its compounds, hands must be washed prior to eating or drinking. Metallic lead cannot be absorbed through the skin.

Health Hazards (Acute & Chronic):

Acute: Sulfuric acid exposure may cause irritation of the skin, corneal damage of the eyes, irritation of the mucous membranes and upper respiratory system, including the lungs. Acute lead exposure may cause GI upset, loss of appetite, diarrhea, constipation, fatigue, joint pain, and difficulty sleeping.

Chronic: Exposure to lead may cause anemia, kidney damage and damage to the central nervous and reproductive systems. Lead exposure may also affect developing fetuses in pregnant women. Chronic exposure to sulfuric acid may cause scarring of skin and mucous membranes, bronchitis, contact dermatitis, and erosion of tooth enamel.

HMIS label rating for sulfuric acid: Health: 3 Flammability: 0 Reactivity: 2 Other: 0

NFPA label rating for sulfuric acid: Health: 3 Flammability: 0 Reactivity: 2 Other: 0 Sulfuric acid is water reactive if concentrated.

HMIS and NFPA Hazard labels are used to identify the battery(s) dilute 1.300sg sulfuric acid. The first number represents the Health hazard, the second number represents the Fire hazard, and the third number represents the Reactivity hazard. The fourth space identifies the hazardous material, which is acid and/or typical recommended personal protective equipment, i.e. safety glasses, rubber or neoprene gloves, etc.

Rating Codes:
0 = Insignificant
1 = Slight
2 = Moderate
3 = High
4 = Extreme

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 know to the State of California to cause cancer. Wash hands after handling.

Section IV: First Aid Procedures - Sulfuric Acid

Contact with skin: Remove contaminated clothing immediately and drench affected skin with plenty of water.

Contact with eyes: If substance has got into eyes, immediately wash out with plenty of water for at least 15 minutes. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Drink 8 oz. of water or milk. Seek immediate medical attention.

Inhalation: Remove patient to fresh air. Give CPR if necessary. Seek immediate medical attention.

Section V: Firefighting Measures

Fire and Explosive Properties:

Hydrogen Flash point: -259ºC Hydrogen Autoignition point: 580ºC

Hydrogen Flammable Limits in Air (% by Volume): Lower Explosion Limit (LEL): 4.1; Upper Explosion Limit (UEL): 74.2

Unusual Fire and Explosion Hazards: Hydrogen and Oxygen gases are produced in cells during normal battery operation. Ventilate area.

Extinguishing Media: Dry Chemical, Foam or CO^2

Special Firefighter Procedures: Use Positive Pressure, self-contained breathing apparatus.

Section VI: Accidental Release Measures

Immediate Actions:

Shut off all ignition sources

Clean Up Actions:

Neutralize exposed battery parts with soda ash or sodium bicarbonate until fizzing stops; pH should be at neutral 6-8. Provied adequate ventilation. Heat, carbon dioxide and hydrogen gas may be given off during neutralization. Collect residue in a suitable container. Place the broken battery in a heavy-duty plastic bag or other non-metallic container. Properly recycle all battery residue and parts.

Section VII: Handling and Storage

Under normal conditions of battery use, internal components will not present a health hazard.

Handling:

Keep away from heat and sources of ignition.
Wash hands thoroughly after use.
Do not use organic solvents; use only manufacturer recommended cleaners on the batteries.
Avoid sparks.
Avoid contact with metal jewellery and watches etc.
Do not remove vent caps.
Do not double stack industrial batteries, it may cause damage.

Storage:

Store in a cool, dry area away from heat and combustibles.
Store lead acid batteries with adequate ventilation.
Room ventilation is required for batteries utilized for standby power generation.
Never re-charge batteries in an unventilated, enclosed space.

Section VIII: Exposure Controls / Personal Protection

Engineering Controls: General room ventilation is sufficient during normal use and handling. Do not install these batteries in a sealed, unventilated area.

Personal Protective Equipment (during installation or in the event of battery breakage):

Eye protection: Chemical goggles, safety glasses with sideshields and/or a full-face shield
Protective gloves: Rubber or neoprene
Respiratory protection: NIOSH approved acid mist/organic vapor respirator, if OSHA PEL is exceeded
Other protective equipment: Acid resistant apron or clothes

Work Practices:

Use standard lead-acid battery practices. Do not wear metallic jewelry when working with batteries. Use non-conductive tools only. Discharge static electricity prior to working on a battery. Maintain eyewash, fire extinguisher and emergency communication device in the work area.

Section IX: Physical and Chemical Properties

Boiling point: 110°C to 112°C Vapor pressure: 13.8 mm Hg @ 25°C

Vapor Density: (Air = 1) 3.4 Melting point: N/A

Solubility in water: N/A

Specific gravity: 1.300 ± 0.030

Appearance/Odor: clear to cloudy with slightly acidic odor

Section X: Stability and Reactivity

Stability: This battery and its contents are stable.

Conditions to avoid: Overheating, overcharging which results in acid mist/hydrogen generation.

Incompatibility (materials to avoid): Strong alkaline materials, conductive metals, organic solvents, sparks or open flame.

Hazardous Byproducts: Hydrogen gas may be generated in an overcharged condition, in fire or at very high temperatures. In fire, may emit CO, CO_2 and sulfur oxides.

Hazardous polymerization will not occur.

Section XI: Toxicological Information — Sulfuric Acid

The gelled electrolyte batteries are a sealed, recombinant design that require no water replacement throughout their service life, thus no contact is made with the battery's internal components or chemical hazards. Under normal use and handling, these batteries do not emit regulated or hazardous substances.

	Administration Route	Dose	Test Animal
LD50	Oral	2140 mg/kg	Rat
LDLo	Unreported	135 mg/kg	Man
LC50	Inhalation	510 mg/m^3	Rat

Carsinogenicity: The International Agency on Cancer (IARCC) has classified "strong inorganic acid mists containing sulfuric acid" as a category 1 carcinogen (inhalation), a substance that is carcinogenic to humans. This classification does not apply to the liquid forms of sulfuric acid contained within the battery. Misuse of the product, such as overcharging, may result in the generation of sulfuric acid mist at high levels.

Section XII: Ecological Information

Lead and its compounds can pose a threat if released into the environment.

Section XIII: Disposal Considerations

Waste Disposal Method: Send to lead smelter for reclamation following applicable Federal, State and Local regulations. Product can be recycled along with automotive (SLI) lead-acid batteries.

Section XIV: Transport and International Regulations

UN2794 and Corrosive 8" "Diamond" idenitification placards are required when transporting over 1000 pounds of gelled electrolyte batteries. Gelled electrolyte batteries must be boxed in adequate boxes identified as below with their terminals protected against short circuiting.

DOT: Battery, wet, filled with acid, electric storage - UN2794
Hazard Class: 8
Label: Corrosive

IATA: Battery, wet, filled with acid, electric storage - UN2794
Hazard Class: 8
Label: Corrosive

IMO: Battery, wet, filled with acid, electric storage - UN2794
Hazard Class: 8
Label: Corrosive

Section XV: Regulatory information

See 29 CFR 1910.268(b)(2)

Section XVI: Other Information

The information herein is given in good faith, but no warranty, expressed or implied, is made.

