



## SECTION 5 - FIREFIGHTING MEASURES

|                                    |  |  |   |
|------------------------------------|--|--|---|
| Flash Point – Not Applicable       | Flammable Limits in Air % by Volume: Not Applicable  | Extinguishing Media – Class ABC, CO <sub>2</sub> , Halon | Auto-Ignition 675°F (polypropylene) Temperature |
| Special Fire Fighting Procedures   | Lead/acid batteries do not burn, or burn with difficulty. Do not use water on fires where molten metal is present. Extinguish fire with agent suitable for surrounding combustible materials. Cool exterior of battery if exposed to fire to prevent rupture. The acid mist and vapors generated by heat or fire are corrosive. Use NIOSH approved self-contained breathing apparatus (SCBA) and full protective equipment operated in positive-pressure mode. |  |   |
| Unusual Fire and Explosion Hazards | Sulfuric acid vapors are generated upon overcharge and polypropylene case failure. Use adequate ventilation. Avoid open flames/sparks/other sources of ignition near battery.  |  |   |

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

Procedures for Cleanup. Avoid contact with any spilled material. Contain spill, isolate hazard area, and deny entry. Limit site access to emergency responders. Neutralize with sodium bicarbonate, soda ash, lime or other neutralizing agent. Place battery in suitable container for disposal. Dispose of contaminated material in accordance with applicable local, state and federal regulations. Sodium bicarbonate, soda ash, sand, lime or other neutralizing agent should be kept on-site for spill remediation.

Personal Precautions: Acid resistant aprons, boots and protective clothing. ANSI approved safety glasses with side shields/face shield recommended.

Environmental Precautions: Lead and its compounds and sulfuric acid can pose a severe threat to the environment. Contamination of water, soil and air should be prevented.

## SECTION 7 - HANDLING AND STORAGE

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|---|---|
| Precautions to be Taken in Handling and Storage | Store away from reactive materials, open flames and sources of ignition as defined in Section 10 – Stability and Reactivity Data. Store batteries in cool, dry, well-ventilated areas. Batteries should be stored under roof for protection against adverse weather conditions. Avoid damage to containers.   |
| Other Precautions                               | GOOD PERSONAL HYGIENE AND WORK PRACTICES ARE MANDATORY. Refrain from eating, drinking or smoking in work areas. Thoroughly wash hands, face, neck and arms, before eating, drinking and smoking. Work clothes and equipment should remain in designated lead contaminated areas, and never taken home or laundered with personal clothing. Wash soiled clothing, work clothes and equipment before reuse. |

## SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

|  |  |               |                       |  |                |
|--|--|---------------|-----------------------|--|----------------|
| Respiratory Protection (Specify Type)  | None required under normal conditions. Acid/gas NIOSH approved respirator is required when the PEL is exceeded or employee experiences respiratory irritation. |               |                       |  |                |
| Ventilation                            | Store and handle in dry ventilated area.   | Local Exhaust | When PEL is exceeded. | Mechanical (General)   | Not Applicable |
| Protective Gloves                      | Wear rubber or plastic acid resistant gloves.  |               | Eye Protection        | ANSI approved safety glasses with side shields/face shield recommended |                |
| Other Protective Clothing or Equipment | Safety shower and eyewash.   |               |                       |  |                |

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

|                               |  |                |   |                                  |                                       |
|-------------------------------|--|----------------|---|----------------------------------|---------------------------------------|
| Boiling Point: Not Applicable | Vapor Pressure   | Not Applicable | Specific Gravity  | 1.250-1.320 pH <2                | Melting Point: >320°F (polypropylene) |
| Percent Volatile By Volume    | Not Applicable   | Vapor Density  | Hydrogen: 0.069 (Air = 1)<br>Electrolyte: 3.4 @ STP (Air = 1) |                                  | Evaporation Rate                      |
| Solubility In water           | 100% soluble (electrolyte)   |                | Reactivity in Water   | Electrolyte – Water Reactive (1) |                                       |
| Appearance and Odor:          | Battery: Co-polymer polypropylene, solid; may be contained within an outer casing of aluminum or steel. Case has metal terminals.<br>Lead: Gray, metallic, solid; brown/grey oxide<br>Electrolyte: Odorless, liquid absorbed in glass mat material.<br>No apparent odor. |                |   |                                  |                                       |

## SECTION 10 - STABILITY AND REACTIVITY

|                                      |   |                      |  |
|--------------------------------------|---|----------------------|--|
| Stability:                           | Stable  | Conditions to Avoid: | Avoid overcharging and smoking, or sparks near battery surface. High temperatures-cases decompose at >320°F. |
| Incompatibility (Materials to Avoid) | Sparks, open flames, keep battery away from strong oxidizers. |                      |  |
| Hazardous Decomposition Products     | Combustion can produce carbon dioxide and carbon monoxide.    |                      |  |
| Hazardous Polymerization             | Hazardous Polymerization has not been reported.               |                      |  |

## SECTION 11 - TOXICOLOGICAL INFORMATION

GENERAL: The primary routes of exposure to lead are ingestion or inhalation of dust and fumes.

ACUTE:

INHALATION/INGESTION: Exposure to lead and its compounds may cause headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia, and pain in the legs, arms and joints. Kidney damage, as well as anemia, can occur from acute exposure.

CHRONIC:

INHALATION/INGESTION: Prolonged exposure to lead and its compounds may produce many of the symptoms of short-term exposure and may also cause central nervous system damage, gastrointestinal disturbances, anemia, and wrist drop. Symptoms of central nervous system damage include fatigue, headaches, tremors, hypertension, hallucination, convulsions and delirium. Kidney dysfunction and possible injury has also been associated with chronic lead poisoning. Chronic over-exposure to lead has been implicated as a causative agent for the impairment of male and female reproductive capacity, but there is at present, no substantiation of the implication. Pregnant women should be protected from excessive exposure. Lead can cross the placental barrier and unborn children may suffer neurological damage or developmental problems due to excessive lead exposure in pregnant women.

## SECTION 12 - ECOLOGICAL INFORMATION

In most surface water and groundwater, lead forms compounds with anions such as hydroxides, carbonates, sulfates, and phosphates, and precipitates out of the water column. Lead may occur as sorbed ions or surface coatings on sediment mineral particles or may be carried in colloidal particles in surface water. Most lead is strongly retained in soil, resulting in little mobility. Lead may be immobilized by ion exchange with hydrous oxides or clays or by chelation with humic or fulvic acids in the soil. Lead (dissolved phase) is bioaccumulated by plants and animals, both aquatic and terrestrial.

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## SECTION 13 - DISPOSAL CONSIDERATIONS

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Lead-acid batteries are completely recyclable. Return whole scrap batteries to distributor, manufacturer or lead smelter for recycling. For information on returning batteries to Concorde Battery for recycling call 626-813-1234. For neutralized spills, place residue in acid-resistant containers with sorbent material, sand or earth and dispose of in accordance with local, state and federal regulations for acid and lead compounds. Contact local and/or state environmental officials regarding disposal information.

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## SECTION 14 - TRANSPORT INFORMATION

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All Concorde AGM, GPL, PVX, RG<sup>®</sup> series and D8565 series are valve regulated lead acid (VRLA) batteries. Concorde's VRLA batteries have passed vibration, pressure differential and free flowing acid tests under 49 CFR173.159a, meet IATA Special Provisions A48, A67, A164 & A183, and IMDG Special Provisions 238.1 & 238.2. The batteries are securely packaged, protected from short circuits and labeled "Non-Spillable." Concorde's VRLA batteries are exempt from DOT Hazardous Material Regulations, IATA Dangerous Goods Regulations, and IMDG Code.

### US DOT

Exempted from the requirements because batteries have passed the vibration and pressure differential performance tests, and ruptured case test for Nonspillable designation.

### IMO

Exempted from the requirements because batteries have passed the vibration and pressure differential performance tests, and ruptured case test for nonspillable designation. And, when packaged for transport, the terminals are protected from short circuit.

### IATA

Exempted from the requirements because batteries have passed the vibration and pressure differential performance tests, and ruptured case test for nonspillable designation. And when packaged for transport, the terminals are protected from short circuit. The words "Not Restricted" and the Special Provision numbers must be included in the description of the substance on the Air Waybill as required by 8.2.6, when an Air Waybill is issued.

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## SECTION 15 - REGULATORY INFORMATION

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U.S. HAZARDOUS UNDER HAZARD COMMUNICATION STANDARD:

LEAD - YES  
ARSENIC - YES  
SULFURIC ACID - YES

INGREDIENTS LISTED ON TSCA INVENTORY: YES

CERCLA SECTION 304 HAZARDOUS SUBSTANCES:

|                     |                 |
|---------------------|-----------------|
| LEAD - YES          | RQ: N/A*        |
| ARSENIC - YES       | RQ: 1 POUND     |
| SULFURIC ACID - YES | RQ: 1000 POUNDS |

\* RQ: REPORTING NOT REQUIRED WHEN DIAMETER OF THE PIECES OF SOLID METAL RELEASED IS EQUAL TO OR EXCEEDS 100 µm (micrometers).

EPCRA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCE:

SULFURIC ACID - YES

EPCRA SECTION 313 TOXIC RELEASE INVENTORY:

LEAD - CAS NO: 7439-92-1  
ARSENIC - CAS NO: 7440-38-2  
SULFURIC ACID - CAS NO: 7664-93-9

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## SECTION 16 - OTHER INFORMATION

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