

# Material Safety Data Sheet

## AC DELCO AGM BATTERY

Infosafe™ No. LQ466

Issue Date February 2015

Status ISSUED by GMHOLD

BS:  
1.16.148

**Classified as hazardous**

### 1. Identification

**GHS Product Identifier** AC DELCO AGM BATTERY

**Company Name** GM HOLDEN LTD

**Address** 191 Salmon Street Port Melbourne  
Vic 3207

**Telephone/Fax Number** Tel: +61 3 9647 1111  
Fax: +61 3 9647 2250

**Emergency phone number** Aust: 1800 638 556 NZ: 0800 154 666 (24 hours)

**Recommended use of the chemical and restrictions on use** Electric storage battery.

**Other Names** Not Available

**Additional Information** MANUFACTURER'S NAME: Delkor Corporation  
ADDRESS: 495 WhangSang Dong Gumi Gyungsang Bukdo Republic of Korea  
INFORMATION: 82-2-529-8975

### 2. Hazard Identification

**GHS classification of the substance/mixture** Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.  
Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

**GHS Classification:**

Acute Toxicity - Inhalation: Category 4

Acute Toxicity - Oral: Category 4

Skin Corrosion/Irritation: Category 1A

Eye Damage/Irritation: Category 1

Carcinogenicity: Category 1

Germ Cell Mutagenicity: Category 2

Toxic to Reproduction: Category 1

STOT Single Exposure Category 1

STOT Repeated Exposure Category 1

Hazardous to the Aquatic Environment - Acute Hazard: Category 1

Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1

**Signal Word (s)** Danger

**Hazard Statement (s)** H332 Harmful if inhaled.  
H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.  
 H341 Suspected of causing genetic defects.  
 H350 May cause cancer.  
 H370 Causes damage to organs.  
 H372 Causes damage to organs through prolonged or repeated exposure.  
 H360 May damage fertility or the unborn child.  
 H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statement - General**

P101 If medical advice is needed, have product container or label at hand.  
 P102 Keep out of reach of children.  
 P103 Read label before use.

**Pictogram (s)**

Corrosion, Exclamation mark, Environment, Health hazard



**Precautionary statement - Prevention**

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P260 Do not breathe fume/gas/mist/vapours/spray.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P273 Avoid release to the environment.

**Precautionary statement - Response**

P310 Immediately call a POISON CENTER/doctor.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P314 Get medical advice/attention if you feel unwell.  
 INHALATION:  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P312 Call a POISON CENTER/doctor if you feel unwell.  
 INGESTION:  
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
 SKIN:  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P363 Wash contaminated clothing before reuse.  
 EYES:  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.  
 OTHER:  
 P391 Collect spillage.

**Precautionary statement - Storage**

P405 Store locked up.

**Precautionary statement - Disposal**

P501 Dispose of contents/container to an approved waste disposal plant.

### 3. Composition/information on ingredients

Ingredients	Name	CAS	Proportion
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Lead	7439-92-1	60-<100 %
Sulphuric acid	7664-93-9	10-30 %
Barium	7440-39-3	<1 %
Ingredients		Balance
determined not to be hazardous, including water.		

#### 4. First-aid measures

<b>Inhalation</b>	If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.
<b>Ingestion</b>	Do not induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.
<b>Skin</b>	Remove all contaminated clothing. Wash gently and thoroughly with water and non-abrasive soap for 15 minutes. Ensure contaminated clothing is washed before re-use or discard. Seek medical attention.
<b>Eye contact</b>	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical attention.
<b>First Aid Facilities</b>	Eye wash fountain, safety shower and normal washroom facilities.
<b>Advice to Doctor</b>	Treat symptomatically.
<b>Other Information</b>	For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use carbon dioxide, dry chemical, foam, halon or water spray.
<b>Hazards from Combustion Products</b>	Under fire conditions this product may emit toxic and/or irritating fumes and gases including lead, lead compounds, hydrogen gases, oxygen gases and sulfuric acid fumes.
<b>Hazchem Code</b>	2R
<b>Decomposition Temp.</b>	Not available
<b>Precautions in connection with Fire</b>	Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

#### 6. Accidental release measures

<b>Emergency Procedures</b>	Evacuate all unprotected personnel. Do not allow contact with skin and eyes. Do not breathe mist/vapour. It is essential to wear self-contained breathing apparatus (S.C.B.A) and full personal protective equipment and clothing to prevent exposure. Avoid exposure to spillage by collecting the material using vacuum and transfer into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.
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#### 7. Handling and storage

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**Precautions for Safe Handling** Corrosive liquid within the battery. Handle batteries cautiously to avoid spills. Attacks skin and eyes. Causes burns. Avoid breathing in vapours, mist or fumes. Wear suitable protective clothing, gloves and eye/face protection when mixing and using. Use in designated areas with adequate ventilation. Keep containers tightly closed. Ensure a high level of personal hygiene is maintained when using this product, that is, always wash hands after handling, and before eating, drinking, smoking or using the toilet facilities.

**Conditions for safe storage, including any incompatibilities** Corrosive liquid in batteries. Stack batteries so as to prevent accidental contact between terminal and/or other damage to terminals or containers. Whenever feasible, store on shipping pallet or rack. Do not stack loaded pallets or racks on top of other batteries. Keep a supply of neutralizing agent in or near the storage area for emergency use. Avoid storage in areas exposed to heat or solar buildup. Store in a cool dry well-ventilated area. Store away from oxidising agents and bases/acids. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Provide a catch-tank in a bunded area. Store in original packages as approved by manufacturer. Ensure that storage conditions comply with applicable local and national regulations. For information on the design of the storeroom, reference should be made to Australian Standard AS 3780 The storage and handling of corrosive substances.

**Storage Temperatures** Min: -28°C for fully charged batteries. -6°C for completely discharged batteries.  
Max: 26°C for low shelf discharge but up to 38°C is safe.

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## 8. Exposure controls/personal protection

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**Occupational exposure limit values** No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below:

Lead (dusts/fumes)  
TWA : 0.15 mg/m<sup>3</sup>

Sulfuric acid  
TWA : 1 mg/m<sup>3</sup>

Barium (as Ba)  
TWA : 0.5 mg/m<sup>3</sup>

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

**Biological Limit Values** Name: LEAD (7439-92-1)  
Determinant: Lead  
Specimen: Blood  
Value: 30ug/100mL  
Sampling time: Not critical

Source: American Conference of Industrial Hygienists (ACGIH)

**Appropriate engineering controls** Use with good general ventilation. If mists or vapours are produced, local exhaust ventilation should be used. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn.

**Respiratory** If engineering controls are not effective in controlling airborne

<b>Protection</b>	exposure then an approved respirator with a replaceable mist filter should be used. Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.
<b>Eye Protection</b>	Safety glasses with side shields, goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.
<b>Hand Protection</b>	Wear gloves of impervious material, such as nitrile-rubber, neoprene, vinyl coated, PVC or plastic acid-resistant gloves with elbow-length gauntlet are recommended. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.
<b>Body Protection</b>	Suitable protective work wear. Acid-resistant apron, clothing and boots are recommended especially where large quantities are handled.

## 9. Physical and chemical properties

<b>Appearance</b>	Sealed article (Battery) Transparent Liquid (Dilute Sulfuric acid)
<b>Odour</b>	Odourless (Battery)
<b>Decomposition Temperature</b>	Not available
<b>Melting Point</b>	-40°C (Dilute Sulfuric acid)
<b>Freezing Point</b>	-56.4°C (Dilute Sulfuric acid)
<b>Boiling Point</b>	110°C
<b>Solubility in Water</b>	Not available
<b>Specific Gravity</b>	1.310 (Dilute Sulfuric acid)
<b>pH</b>	Not available
<b>Vapour Pressure</b>	3.17 kPa (for 30% concentration at 25°C) (Dilute Sulfuric acid)
<b>Vapour Density (Air=1)</b>	Not available
<b>Evaporation Rate</b>	Not available
<b>Odour Threshold</b>	Not available
<b>Partition Coefficient: n-octanol/water</b>	Not available
<b>Flash Point</b>	Not applicable
<b>Flammability</b>	Non-flammable
<b>Auto-Ignition Temperature</b>	Not available
<b>Flammable Limits - Lower</b>	74.2% (Hydrogen Gas)
<b>Flammable Limits - Upper</b>	4.1% (Hydrogen Gas)

## 10. Stability and reactivity

<b>Reactivity</b>	Reacts with incompatibles.
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<b>Chemical Stability</b>	Stable under normal conditions of use.
<b>Conditions to Avoid</b>	Use only approved charging methods. Avoid overcharging. Avoid short-circuiting. Avoid sparks and other ignition sources. Keep away from oxidizing and reducing materials. Do not open, break or melt the casing.
<b>Incompatible Materials</b>	Heat, open flames, sparks, strong oxidizing or reducing agents.
<b>Hazardous Decomposition Products</b>	Can emit highly toxic fumes when heated. Combustion can produce carbon dioxide and carbon monoxide. Will release an explosive hydrogen/oxygen gas mixture. Oxides of lead, lead and/or lead compounds may be released. Sulfuric acid may release sulfur dioxide and/or sulfur trioxide.
<b>Hazardous Polymerization</b>	Will not occur.

## 11. Toxicological Information

<b>Toxicology Information</b>	Wet storage batteries are sealed articles. Exposure to lead, acid and lead contaminated acid is not anticipated during normal storage, handling and intended use or maintenance of the battery. Battery recycling personnel should carefully follow established employer protocols when processing batteries and battery components.
<b>Ingestion</b>	Harmful if swallowed. Ingestion of this product can cause irritation to the mouth, throat, oesophagus and stomach with symptoms of diarrhoea. Ingestion of this product will cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach. Lead - Poison by ingestion in large dosages and with prolonged exposure leading to the same effects as seen in exposure by inhalation. Adults absorb 5-15% of ingested lead and retain less than 5%. Children absorb about 50% and retain about 30%. Sulfuric Acid - Moderately toxic by ingestion.
<b>Inhalation</b>	Harmful by inhalation. Inhalation of mists or vapours will result in respiratory irritation and possible harmful corrosive effects including lesions of the nasal septum, pulmonary edema, pneumonitis and emphysema. Lead - For industry, inhalation is much more important than is ingestion. Systemic effects include loss of appetite, anemia, malaise, insomnia, headache, irritability, muscle and joint pains, tremors, flaccid paralysis without anesthesia, hallucinations and distorted perceptions, muscle weakness, gastritis and liver changes. Major organ systems affected are the nervous system, blood system and kidneys. Experimental evidence suggests that blood levels of lead below 10 mg/dL can lower the IQ scores of children. Low levels of lead impair neurotransmission and immune system function and may increase systolic blood pressure. Reversible kidney damage can occur from acute exposure. Chronic exposure can lead to irreversible vascular sclerosis, tubular cell atrophy, interstitial fibrosis, and glomerular sclerosis. Very heavy intoxication can sometimes be detected by formation of a dark line on the gum margins. Sulfuric Acid - Experimental poison by inhalation. Repeated or prolonged inhalation of sulfuric acid mist can cause inflammation of the upper respiratory tract, leading to chronic bronchitis. Severe exposure may cause chemical pneumonitis. Erosion of tooth enamel due to strong acid fume exposure has been observed in industry. Workers exposed to low concentrations of the vapors gradually lose their sensitivity to its irritating action.
<b>Skin</b>	Causes severe skin burns. Corrosive to the skin. Skin contact can cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction.

Sulfuric Acid - Extremely irritating, corrosive, and toxic to tissue, resulting in rapid destruction of tissue, causing severe burns. If much skin is involved, exposure is accompanied by shock, collapse and symptoms similar to those seen in severe burns. Repeated contact with dilute solutions can cause dermatitis.

**Eye** Causes severe eye damage. Eye contact will cause stinging, blurring, tearing, severe pain and possible permanent corneal damage. Burns to the eye may cause blindness. Contact of undiluted product with the eyes or skin quickly causes severe irritation and pain and may cause burns, necrosis and permanent injury.

Sulfuric Acid - Severe eye irritant

**Respiratory sensitisation** Not expected to be a respiratory sensitiser.

**Skin Sensitisation** Not expected to be a skin sensitiser.

**Germ cell mutagenicity** Suspected of causing genetic defects.  
Lead - Human mutation data reported.

**Carcinogenicity** May cause cancer.  
Acid mists, strong inorganic is listed as a Group 1: Carcinogenic to humans according to International Agency for Research on Cancer (IARC). Lead is listed as a Group 2B: Possibly carcinogenic to humans according to International Agency for Research on Cancer (IARC). Occupational exposures to strong-acid mists containing sulfuric acid have been associated with several respiratory tract cancers. However, there is no animal data supporting the carcinogenicity of sulfuric acid. Sulfuric acid has been found to be non-mutagenic, and in two studies of workers employed in lead acid battery manufacture, no association between sulfuric acid mist exposure and respiratory tract cancers was observed.

**Reproductive Toxicity** May damage fertility or the unborn child.  
Lead - Severe toxicity can cause sterility, abortion, and neonatal mortality and morbidity. Experimental teratogen. Experimental reproductive effects. Pathological lesions have been found on male gonads.  
Sulfuric Acid - Experimental teratogen.

**STOT-single exposure** Causes damage to organs.

**STOT-repeated exposure** Causes damage to organs through prolonged or repeated exposure.

**Aspiration Hazard** Not expected to be an aspiration hazard.

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## 12. Ecological information

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**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

**Persistence and degradability** Not available

**Mobility** Not available

**Environment Protection** Prevent this material entering waterways, drains and sewers.

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## 13. Disposal considerations

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**Disposal Considerations** Dispose of waste according to applicable local and national regulations. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations.

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## 14. Transport information

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### Transport Information

This material is classified as a Class 8 (Corrosive Substances) Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition).  
Class 8 Dangerous Goods are incompatible in a placard load with any of the following:

- Class 1, Explosives
- Division 4.3, Dangerous When Wet Substances
- Division 5.1, Oxidising Agents
- Division 5.2, Organic Peroxides
- Class 6, Toxic or Infectious Substances, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids
- Class 7, Radioactive Substances

and are incompatible with food and food packaging in any quantity. Strong acids must not be loaded in the same freight container or on the same vehicle with strong alkalis. Packing Group I and II acids and alkalis should be considered as strong.

#### Marine Transport (IMO/IMDG):

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.  
UN No.: 2800  
Proper Shipping Name: BATTERIES, WET, NON-SPILLABLE electric storage  
Class: 8  
EMS No.: F-A, S-B  
Special provisions: 29, 238

#### Air Transport (ICAO/IATA):

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.  
UN No: 2800  
Proper Shipping Name: Batteries, wet, non-spillable electric storage  
Class: 8  
Label: Corrosive  
Packing Instruction: 872 (For passenger and cargo aircraft)  
Packing Instruction: 872 (For cargo aircraft only)  
Special provisions: A48, A67, A164, A183

<b>U.N. Number</b>	2800
<b>UN proper shipping name</b>	BATTERIES, WET, NON-SPILLABLE
<b>Transport hazard class(es)</b>	8
<b>Hazchem Code</b>	2R
<b>EPG Number</b>	8A1
<b>IERG Number</b>	37
<b>IMDG Marine pollutant</b>	Yes

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## 15. Regulatory information

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### Regulatory Information

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.  
Classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

### Poisons Schedule AICS (Australia)

S6  
All components of this product are listed on the Inventory or exempted.



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## 16. Other Information

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**Date of  
preparation or  
last revision of  
SDS**

SDS Created: February 2015

**Literature  
References**

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.  
Standard for the Uniform Scheduling of Medicines and Poisons.  
Australian Code for the Transport of Dangerous Goods by Road & Rail.  
Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.  
Workplace exposure standards for airborne contaminants, Safe work Australia.  
American Conference of Industrial Hygienists (ACGIH).  
Globally Harmonised System of classification and labelling of chemicals.

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End of MSDS

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