# SAFETY DATA SHEET (SDS)

## 1. IDENTIFICATION

**PRODUCT NAME:** Lead/acid Battery, Wet, filled with acid / Wet cell battery / Flooded battery

Distributor: Interstate All-Battery

4301 121st Street

Urbandale, IA 50323

EMERGENCY PHONE: 24 hours – (800) 255-3924; Chemtel contract MIS0002771

INFORMATION PHONE: (800) 541-8419, Ext. 6672 or 6663

Recommended Use: Electric storage battery for starting a piston engine

**SDS NUMBER:** 1 **REVISION NUMBER:** 5

**DATE OF PREPARATION/REVISION:** 8/18/15

## 2. HAZARDS IDENTIFICATON

**NOTE: Under normal conditions of battery use, internal components will not present a health hazard. The following information is provided for battery electrolyte (acid) and lead for exposure that may occur during container breakage or under extreme heat conditions such as fire or rupture/explosion.**

A. HAZARD CLASSIFICATION

PHYSICAL HAZARDS: Not Classified.

HEALTH HAZARDS
Acute toxicity Category 4 (inhalation)
Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Carcinogenicity Category 1B
Germ cell mutagenicity Category 2
Specific target organ toxicity – single exposure Category 1
Specific target organ toxicity – repeated exposure Category 1

ENVIRONMENTAL HAZARDS: Not Classified.

B. GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS
PICTOGRAMS :

SIGNAL WORD : DANGER.

HAZARD STATEMENTS
H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H350 May cause cancer (inhalation).

H341 Suspected of causing genetic defects.

H370 Specific target organ toxicity – single exposure; Respiratory tract irritation

H372 Causes damage to organs (Hematopoietic system, kidney, central nervous system, peripheral nervous system, cardiovascular system, immune system, respiratory).

PRECAUTIONARY STATEMENTS:
[Prevention]
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P281 Use personal protective equipment.

P270 Do not eat, drink or smoke when using this product.

[Response]

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P363 Wash contaminated clothing before reuse.

P310 Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment (see warning label).

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and if it is easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P307+P311 IF exposed: Call a POISON CENTER or doctor/physician.

P314 Get medical advice/attention if you feel unwell.

Storage P405 Store locked up.

Disposal P501 Dispose of contents/container in accordance with local/regional/national regulations.

C. OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION (e.g. Dust explosion hazards)

NFPA/HMIS Rating for pure, undiluted sulfuric acid
:
Do not breathe dust/fume/gas/mist/vapors/spray.
Health=3, Flammability=0, Instability=1
(0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme)

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Material | % by Wt. | CAS Number | Eight Hour Exposure Limits | | |
|---|---|---|---|---|---|
| | | | OSHA PEL | ACGIH TLV | NIOSH REL |
| **Lead** | 34 | 7439-92-1 | 50 μg/m$^3$ | 150 μg/m$^3$ | 100 μg/m$^3$ |
| **Lead Oxide** | 31 | 1309-60-0 | 50 μg/m$^3$ | 150 μg/m$^3$ | 100 μg/m$^3$ |
| **Lead Sulfate (Anglesite)** | <1 | 7446-14-2 | 50 μg/m$^3$ | 150 μg/m$^3$ | 100 μg/m$^3$ |
| **Battery Electrolyte (Sulfuric Acid (35%)** | 34 | 7664-93-9 | 1mg/m$^3$ | 0.2 mg/m$^3$ (respirable thoracic fraction) | 1 mg/m$^3$ |

## 4. FIRST AID MEASURES

A. EYE CONTACT If a battery ruptures/explodes, do not rub or scratch exposed eye. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. GET MEDICAL ATTENTION AS SOON AS POSSIBLE.

B. SKIN CONTACT If a battery ruptures/explodes, do not rub or scratch exposed skin. If liquid gets on the skin, immediately flush the contaminated skin with water for at least 15 minutes. If liquid penetrates through the clothing, immediately remove the clothing and shoes under a safety shower and continue to wash the skin for at least 15 minutes. GET MEDICAL ATTENTION IMMEDIATELY.

C. INHALATION If a battery ruptures/explodes, move to fresh air in case of accidental inhalation of mist. If breathing has stopped, perform artificial respiration. If breathing is difficult, give oxygen. GET MEDICAL ATTENTION AS SOON AS POSSIBLE.

D. INGESTION If solutions of a battery chemicals have been swallowed and the person is conscious, give one glass of water. Vomiting may occur spontaneously, but Do NOT induce vomiting. Never give anything by mouth to an unconscious person. GET MEDICAL ATTENTION IMMEDIATELY.

E. MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE OR DELAYED:

EYES: If a battery ruptures/explodes, direct contact with the liquid or exposure to vapors or mists may cause tearing, redness, swelling, corneal damage and irreversible eye damage. Splashes of acid in the eyes will cause severe burns.

SKIN: Direct contact with acid inside of a battery can be severely irritating to the skin and may result in redness, swelling, burns and severe skin damage. Skin contact may aggravate an existing dermatitis condition

INHALATION: Not a likely route of exposure. If a battery ruptures/explodes, the acid or gas may be harmful or fatal if inhaled in a confined area. May cause severe irritation and burns of the nose, throat and respiratory tract.

INGESTION: If ingested, the acid in the battery causes serious burns of the mouth or perforation of the esophagus or stomach. May be fatal if swallowed. The lead in the battery can be ingested if particles of lead are ingested through the particles entering an open container of food or liquid is. Also, particles of acid on a person's hands can contaminate food, drink, or cigarettes that are handled, so hands should be thoroughly washed after touching a battery.

Lead may be toxic to blood, kidneys, and the central nervous system (CNS). Repeated or prolonged exposure to lead can produce target organs damage.

F. INDICATION OF IMMEDIATE MEDICAL ATTENTION AND NOTES FOR PHYSICIAN

Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

## 5. FIRE FIGHTING MEASURES

A. SUITABLE (AND UNSUITABLE) EXTINGUISHING MEDIA

Use extinguishing media appropriate for surrounding fire.
If a battery ruptures/explodes, use dry chemical, soda ash, lime, sand or carbon dioxide.

B. SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

Lead, lead compounds and sulfuric acid fume may be released during a fire involving the product.

C. SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS

Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing.

D. FIRE AND EXPLOSION HAZARD

Not flammable.
Battery may rupture due to pressure buildup when exposed to excessive heat and may be result in the release of corrosive materials.

Lead, lead compounds and sulfuric acid fume may be released during a fire involving the product.

## 6. ACCIDENTAL RELEASE MEASURES

A. NECESSARY MEASURES AND PROTECTIVE GEAR TO PROTECT HUMANS

If a battery ruptures, avoid contact with skin, eyes and clothing. Do not touch spilled material. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

B. NECESSARY MEASURES TO PROTECT ENVIRONMENT

Notify authorities and appropriate federal, state, and local agencies. Prevent the product from spreading into the environment. Avoid direct discharge into drains.

C. METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

SMALL SPILLS: Collect all released material in a plastic lined metal container. If necessary neutralize the residue with a dilute solution of sodium carbonate. Wash affected area.
LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by building a dike. Absorb with dry earth, sand or other non-combustible material. Neutralize the residue with a dilute solution of sodium carbonate. Dispose of all contaminated materials in accordance with current local regulations.

## 7. HANDLING AND STORAGE

A. PRECAUTIONS FOR SAFE HANDLING

Protect from physical damage.

B. CONDITIONS FOR SAFE STORAGE (INCLUDING ANY INCOMPATIBILITIES)

Avoid contact with eyes. Store in a cool, dry, ventilated area away from sources of heat, moisture, incompatibilities, and direct sunlight. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. OCCUPATIONAL EXPOSURE LIMIT(S), BIOLOGICAL EXPOSURE STANDARD

OSHA-PEL 0.05 mg/m3 (Lead), 1 mg/m3 (Sulfuric acid), 0.5 mg/m3 (Antimony)

ACGIH-TLV TWA 0.05 mg/m3 (Lead), TWA 0.2 mg/m3 (Sulfuric acid, TWA 0.5 mg/m3(Antimony)

B.APPROPRIATE ENGINEERING CONTROLS

Use local exhaust ventilation if necessary to control airborne mist and vapor.

C. INDIVIDUAL PROTECTION MEASURES

Respiratory protection: If significant mists or aerosols are generated an approved respirator is recommended. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Eye protection Wear safety glasses with side shields (or goggles).

Hand protection: Wear chemical resistant gloves. Gloves should be replaced immediately if signs of degradation are observed.

Body protection: Use good work and personal hygiene practices to avoid exposure. Consider the provision in the work area of a safety shower and eyewash. Always wash thoroughly after handling chemicals.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

A. APPEARANCE (PHYSICAL STATE, COLOUR etc.): Off-white cloudy liquid with solid object.
B. Odor: Characteristics.
C. ODOR THRESHOLD: Not available.
D. pH: pH < 1 (Sulfuric acid)
E. MELTING POINT/FREEZING POINT Not available.
F. INITIAL BOILING POINT AND BOILING RANGE: Not available.
G. FLASH POINT: Non-flammable.
H. EVAPORATION RATE: Not available.
I. FLAMMABILITY (SOLID, GAS): Not applicable.
J. UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: Non-Flammable
K. VAPOR PRESSURE: Not available
L. SOLUBILITY: Soluble in water.
M. VAPOR DENSITY: Not available
N. SPECIFIC GRAVITY: Not available
O. PARTITION COEFFICIENT OF n-OCTANOL/WATER: Not available.
P. AUTO-IGNITION TEMPERATURE: Not applicable.
Q. DECOMPOSITION TEMPERATURE: Not available.
R. VISCOSITY: Not available.

S. MOLECULAR WEIGHT: Mixture.
Note: These physical properties are typical values for this product.

A. APPEARANCE (PHYSICAL STATE, COLOUR etc.): Bluish white, silvery gray.
B. Odor: None.
C. ODOR THRESHOLD: Not available.
D. pH: Not applicable.
E. MELTING POINT/FREEZING POINT 327.5 C
F. INITIAL BOILING POINT AND BOILING RANGE 1740 C (1013hPa)
G. FLASH POINT: Non-flammable.
H. EVAPORATION RATE: Not applicable.
I. FLAMMABILITY (SOLID, GAS): Not applicable.
J. UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS
: Non-flammable.
K. VAPOR PRESSURE: 1.33 hPa (973°C)
L. SOLUBILITY: Insoluble in water.
M. VAPOR DENSITY: Not applicable
N. SPECIFIC GRAVITY: 11.34 g/cm3
O. PARTITION COEFFICIENT OF n-OCTANOL/WATER: Not applicable.
P. AUTO-IGNITION TEMPERATURE: Not applicable.
Q. DECOMPOSITION TEMPERATURE: Not applicable.
R. VISCOSITY: Not applicable
S. MOLECULAR WEIGHT: 207.2
Note: These physical properties are typical values for Lead (Pb).

## 10. STABILITY AND REACTIVITY

A. CHEMICAL STABILITY: Stable at normal temperatures and storage conditions.

B. POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

C. CONDITIONS TO AVOID (STATIC DISCHARGE, SHOCK, VIBRATION etc.): Overcharging. Sources of ignition. Mechanical impact. Contact with incompatible chemicals.

D. SUBSTANCES TO AVOID
If a battery ruptures, avoid contact with organic materials and alkaline materials.

E. HAZARDOUS DECOMPOSITION PRODUCTS: Lead, Lead compounds and sulfuric acid fumes may be released during a fire involving the product.

## 11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure
Inhalation: Corrosive. severe irritation and burns.

Ingestion: Serious burns

Eye/Skin

Eye: Tearing, redness, swelling, corneal damage, irreversible eye damage and severe burns.

Skin: Redness, swelling, burns and severe skin damage.

B. Delayed and immediate effects and also chronic effects from short and long term exposure
Acute toxicity (possible route of exposure):

Oral (LD50): Rat 2140 mg/kg (Sulfuric acid),
7000 mg/kg (Antimony)

Skin (LD50): Not available.

Inhalation (LC50): Rat 0.347 mg/L(4hr) (dust//mist)

Skin corrosion/irritation: cat 1

Serious eye damage/irritation: cat 1

Respiratory sensitization: Not available.

Skin sensitization: Not available

Carcinogenicity: cat 1B
ACGIH Group A2, IARC Group 1 (Mist containing sulfuric acid)
* Note: Sulfuric acid mist is not expected under normal use of the product.
ACGIH Group A3, IARC Group 2B (Lead), IARC Group 3 (Polypropylene)

Germ cell mutagenicity: cat 2

Reproductive toxicity: Not available.

STOST-single exposure: cat 1
Respiratory.

STOST-repeated exposure: cat 1
Hematopoietic system, kidney, central nervous system, peripheral nervous system, cardiovascular system, immune system, respiratory.

Aspiration hazard: Not available.

C. Numeric measure of toxicity (such as acute toxicity estimates) - ATEmix
Oral (LD50): Rat > 5,000 mg/kg

Skin (LD50): Not available.

Inhalation (LC50): Rat 2.51 mg/L (4hr) (dust//mist)

## 12. ECOLOGICAL INFORMATION

A. Aquatic/terrestrial ecology toxicity
Fish (LC50): Not available.
Daphnia (EC50): Not available.
Algae (EC50):
B. Persistence and degradability
Persistence: Not available
Degradability:
C. Bioaccumulative potential: Not available
D. Mobility in soil: Not available
E. Other hazardous effects: Not available.

## 13. DISPOSAL CONSIDERATIONS

A. DISPOSAL METHODS

Dispose of in accordance with local, state, and federal regulations. Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.
Not available.

B. PRECAUTIONS (INCLUDING DISPOSAL OF CONTAMINATED CONTAINER OR PACKAGE)
Since emptied containers retain product residue, follow label warnings even after container is emptied.

## 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (BL).
US DOT SHIPPING NAME: UN2794, Batteries, Wet, Filled with acid, Class 8, PG, III.

DOT LABEL: Corrosive
49 Code of Federal Regulations **173.**159(e) applies to full truckload shipments of UN 2794 lead-acid batteries that are securely shrink-wrapped and palletized if all of the following 4 conditions are met or when the only cargo in the truck is UN2704 or UN2800 Hazardous material. Compliance with 49 173.159(e) eliminates the need to put corrosive placards on the truck

(e) When transported by highway or rail, electric storage batteries containing electrolyte or corrosive battery fluid are not subject to any other requirements of this subchapter, if all of the following are met:

(1) No other hazardous materials may be transported in the same vehicle;

(2) The batteries must be loaded or braced so as to prevent damage and short circuits in transit;

(3) Any other material loaded in the same vehicle must be blocked, braced, or otherwise secured to prevent contact with or damage to the batteries; and

(4) The transport vehicle may not carry material shipped by any person other than the shipper of the batteries.

IATA SHIPPING NAME: UN2794, Batteries, Wet, Filled with acid, Class 8, PG, III. 49 Code of Federal Regulations 173.159(b)(1): (b) For transportation by aircraft: (1) The packaging for wet batteries must incorporate an acid- or alkali-proof liner, or include a supplementary packaging with sufficient strength and adequately sealed to prevent leakage of electrolyte fluid in the event of spillage;

IATA LABEL: Corrosive.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS

SHIPPING NAME: UN2794, Batteries, Wet, Filled with acid, Class 8, PG, III.

LABEL: Corrosive

E. MARINE POLLUTANT SUBSTANCES: Not Applicable.

F. SPECIAL PRECAUTIONS FOR USER: Not available.

## 15. REGULATORY INFORMATION

EU. Directive 67/548/EEC on the classification, packaging, and labeling of dangerous substances, Annex I

Classification: C; R35

Risk Phrases: R35

Safety Phrases: S1/2, S26, S30, S45

U.S. Federal, Health and Environment) and U.S. Federal, Right-To-Know
CERCLA Section 103 (40 CFR 302.4)

10lb (4.535 kg) (Lead), 1000 lb (453.599 kg) (Sulfuric acid)

EPCRA (SARA Title III) Section 302 (EHS -TPQ)

1000 lb (453.599 kg) (Sulfuric acid)

EPCRA (SARA Title III) Section 304 (EHS - Reporting Quantities)
1000 lb (453.599 kg) (Sulfuric acid)

EPCRA (SARA Title III) Section 313 - Toxic chemical release reporting
Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

OSHA Specifically Regulated Substances (29 CFR 1910.1001-.1052)
Not applicable.

CANADA REGULATORY INFORMATION
WHMIS Ingredient Disclosure List: Regulated

NOTE: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the Safety Data Sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions

## 16. OTHER INFORMATION

A. SOURCE OF DATA:
Guideline for Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

EC-ECB, International Uniform Chemical Information Database (IUCLID)

Hazardous Substances Data Bank (HSDB)

Registry of Toxic Effects of Chemical Substances (RTECS)

NFPA 704 Standard System for the Identification of the Hazards of Materials for Emergency Response.

International Chemical Safety Cards (ICSC)(http://www.nihs.go.jp/ICSC)

3E Company/Ariel WebInsight DB.

B. THE DATE OF PREPARATION OF THE MSDS: August 18, 2015

C. THE NUMBER OF TIMES REVISED AND THE DATE OF PREPARATION OF THE LATEST REVISION

Fifth Revision: August 18, 2015

D. OTHER INFORMATION:

The above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. Interstate All-Battery, Retail Acquisition and Development, Inc., and Interstate Batteries, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. Each individual should make a determination as to the suitability of the information for their particular purpose(s). Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this MSDS. The user is responsible for full compliance.