SAFETY DATA SHEET

BATTERY ELECTROLYTE / BATTERY ACID

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name Battery Electrolyte/Battery Acid (diluted sulfuric acid)

Other means of identification
UN number UN2796

Recommended use of the chemical and restrictions on use
Recommended Use: Used to activate dry batteries.
Uses advised against: Any other not listed above.

Details of the supplier of the safety data sheet
Supplier Address: Interstate Batteries, Inc.
12770 Merit Drive
Dallas, Texas 75251
United States
www.interstatebatteries.com

Emergency telephone number
Information Phone Number (972)991-1444, Ext. 6672 and Ext. 6663
24 Hour Emergency Phone Number In the U.S.: (800) 255-3924, Chemtel

2. HAZARDS IDENTIFICATION

Classification

Health Hazards

<table>
<thead>
<tr>
<th>Skin corrosion/irritation</th>
<th>Category 1A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 1A</td>
</tr>
</tbody>
</table>

Physical hazards
Not classified

OSHA Regulatory Status
Under United States Regulations (29 CFR 1900.1200 – Hazard Communication standard), this product is considered hazardous. In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS). According to the Globally Harmonized Standard for Classification and Labeling (GHS) this product is considered hazardous.
Label elements

Emergency Overview

Danger

Hazard statements
Causes severe skin burns and eye damage
May cause cancer

Appearance Clear liquid.  
Physical state Liquid  
Odor Pungent

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
May be harmful if swallowed.  
Unknown Acute Toxicity  
65% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS
Under United States Regulations (29 CFR 1900.1200 – Hazard Communication standard), this product is considered hazardous. In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS). According to the Globally Harmonized Standard for Classification and Labeling (GHS) this product is considered hazardous.

### Synonyms
Not available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>7664-93-9</td>
<td>30-40</td>
</tr>
</tbody>
</table>

## 4. FIRST AID MEASURES

### First aid measures

#### Eye contact
In case of eye contact, immediately flush eyes with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Get medical attention if irritation persists.

#### Skin Contact
For minor skin contact, avoid spreading material on unaffected skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing and shoes.

#### Inhalation
In case of inhalation, remove to fresh air. If not breathing, provide artificial respiration. If breathing is difficult, administer oxygen. Seek medical attention immediately.

#### Ingestion
In case of accidental ingestion, wash out mouth with copious amounts of water. Seek medical attention immediately. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person.

#### Self-protection of the first aider
Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

### Most important symptoms and effects, both acute and delayed

**Symptoms**
Not available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**
Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

- **Small Fire**
  - Dry chemical, CO₂, or water spray.

- **Large Fire**
  - Dry chemical or CO₂, alcohol - resistant foam or water spray.

### Unsuitable extinguishing media
Any not listed above.

### Specific hazards arising from the chemical

**Hazardous combustion products**
Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive fumes.

**Explosion data**

- **Sensitivity to Mechanical Impact**
  - None known.

- **Sensitivity to Static Discharge**
  - None known.
### Protective equipment and precautions for firefighters
Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters’ protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep out of low areas. Keep unauthorized personnel away. Stay upwind.

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

**Personal precautions**
Ventilate enclosed areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Other Information**
Non-emergency personnel should utilize chemical gloves.

**For emergency responders**
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) as an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Do not get water inside container. Personal protective equipment: Wear chemical gloves, goggles, acid resistant clothing and boots, respirator if insufficient ventilation.

**Environmental precautions**
Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional ecological information.

**Methods and material for containment and cleaning up**

**Methods for containment**
Stop leak if you can do it without risk. Absorb with earth sand or other non-combustible material. Do not allow discharge of un-neutralized acid to sewer. Cautiously neutralize spilled liquid.

**Methods for cleaning up**
Dispose of in accordance with local, State, and national regulations.

### 7. HANDLING AND STORAGE

#### Precautions for safe handling

**Advice on safe handling**
Handle and open container with care. Avoid contact with skin and eyes. Use only with adequate ventilation. Use caution when combining with water; DO NOT add water to corrosive liquid, ALWAYS add corrosive liquid to water while stirring to prevent release of heat, steam and fumes.

Do not get in eyes or on skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Eyewash stations and safety showers should be provided with unlimited water supply. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**
Keep away from incompatible materials. Store locked up. Keep container/package tightly closed in a cool, well-ventilated place. Ventilate enclosed areas.
Storage class:
Class 8B: Non-flammable corrosive materials.

**Incompatible materials**
Reacts violently with strong reducing agents, metals, sulfur trioxide, strong oxidizers and water. Contact with metals may product toxic sulfur dioxide fumes and may release flammable hydrogen gas.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>TWA: 0.2 mg/m³ thoracic fraction</td>
<td>TWA: 1 mg/m³</td>
<td>IDLH: 15 mg/m³</td>
</tr>
<tr>
<td>7664-93-9</td>
<td></td>
<td></td>
<td>TWA: 1 mg/m³</td>
</tr>
</tbody>
</table>

Appropriate Engineering Controls

Engineering Controls

The health hazard risks of handling this material are dependent on factors, such as physical form and quantity. Site-specific risk assessments should be conducted to determine the appropriate exposure control measures. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels as low as reasonably achievable.

Individual Protection Measures, such as personal protective equipment

Eye/face protection

In laboratory, medical or industrial settings, safety glasses with side shields are recommended. The use of goggles or full face protection may be required depending on the industrial exposure setting. Contact a health and safety professional for specific information.

Skin and body protection

Wear protective gloves with elbow length gauntlet. Wear synthetic apron. Under severe exposure or emergency conditions, wear acid-resistant clothing and boots.

Respiratory protection

None required under normal conditions of use. Follow the OSHA respirator regulations found in 29 CFR1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

General Hygiene Considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Clear</td>
</tr>
<tr>
<td>Odor</td>
<td>Pungent</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No Data</td>
</tr>
<tr>
<td>pH</td>
<td>No Data</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No Data</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>95 °C - 95.5556 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>No Data</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>1 n-butyl, Acetate=1</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No Data</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No Data</td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No Data</td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No Data</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity
Not reactive.

Chemical stability
Stable under normal conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Contact with organic materials, combustibles, strong reducing agents, metals, strong oxidizers, water.

Incompatible materials
Reacts violently with strong reducing agents, metals, sulfur trioxide, strong oxidizers and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas.

Hazardous Decomposition Products
Sulfur trioxide, carbon monoxide, sulfuric acid fumes, and sulfur dioxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Product Information

Inhalation
(Acute): May cause corrosive burns – irreversible damage.
(Chronic): Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough.

Eye contact
(Acute): Causes serious eye damage.
(Chronic): Repeated or prolonged exposure to corrosive materials or fumes may cause conjunctivitis.

Skin Contact
(Acute): Causes severe skin burns and eye damage.
(Chronic): Repeated or prolonged exposure to corrosive materials will cause dermatitis.
Ingestion
(Acute): May cause irreversible damage to mucous membranes.
(Chronic): Repeated or prolonged exposure to corrosive materials or fumes may cause gastrointestinal disturbances.

Acute Effects

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid 7664-93-9</td>
<td>= 2140 mg/kg (Rat)</td>
<td>-</td>
<td>= 510 mg/m^3 (Rat) 2 h</td>
</tr>
</tbody>
</table>

Information on toxicological effects
Symptoms
Not available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation
Not available.

Serious eye damage/eye irritation
Effective dose; 5mg Rabbit, 30 second rinse. Severe eye irritation.

Irritation
Severe burns.

Corrosivity
Not available.

Sensitization
Not available.

Germ cell mutagenicity
Not available.

Carcinogenicity
The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mist containing sulfuric acid" as a Category 1 carcinogen, a substance that is carcinogenic to humans. **This classification does not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery.** Batteries subjected to abusive charging at excessively high currents for prolonged periods without vent caps in place may create a surrounding atmosphere of the offensive strong inorganic acid mist containing sulfuric acid.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid 7664-93-9</td>
<td>A2</td>
<td>Group 1</td>
<td>–</td>
<td>X</td>
</tr>
</tbody>
</table>

Reproductive toxicity
Not available.

Developmental Toxicity
Not available.

Teratogenicity
Not available.

STOT - single exposure
Not classified.

STOT - repeated exposure
Not classified.

Chronic toxicity
Not available.

Subchronic toxicity
Not available.

Target Organ Effects
Not available.

Aspiration hazard
Not available.

Numerical measures of toxicity - Product Information
Unknown Acute Toxicity
65% of the mixture consists of ingredient(s) of unknown toxicity

**12. ECOLOGICAL INFORMATION**

Ecotoxicity
65% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid 7664-93-9</td>
<td>500: 96 h Brachydano rerio mg/L LC50 static</td>
<td>29: 24 h Daphnia magna mg/L EC50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability
Not available.
**Bioaccumulation**
Not available.

**Mobility**
Not available.

**Other adverse effects** Not available.

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal of wastes**
Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging**
Disposal should be in accordance with applicable regional, national and local laws and regulations.

**US EPA Waste Number**
Not available.

**California Hazardous Waste Codes**
Not available

This product contains one or more substances that are listed with the State of California as a hazardous waste.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>Toxic, Corrosive</td>
</tr>
</tbody>
</table>

### 14. TRANSPORT INFORMATION

**DOT**

**UN/ID No.**
UN2796

**Proper shipping name**
Battery fluid, acid

**Hazard Class**
8

**Subsidiary class**
8

**Packing Group**
II

**Special Provisions**
A3, A7, B2, B15, IB2, N6, N34, T8, TP2, 154
Passenger aircraft/rail: 1.00 L
Cargo aircraft/rail: 30.00 L

**TDG**

**UN/ID No.**
UN2796

**Proper shipping name**
Battery fluid, acid

**Hazard Class**
8

**Subsidiary class**
8

**Packing Group**
II

**Special Provisions**
Explosive Limit and Limited Quantity Index: 1.00
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index: 1.00

**MEX**

Not regulated

**ICAO (air)**

**UN/ID No.**
UN2796

**Proper shipping name**
Battery fluid, acid

**Hazard Class**
8

**Packing Group**
II
Special Provisions -

IATA  
- UN/ID No. UN2796  
- Proper shipping name Battery fluid, acid  
- Hazard Class 8  
- Packing Group II  
- Special Provisions -

IMDG  
- UN/ID No. UN2796  
- Proper shipping name Battery fluid, acid  
- Hazard Class 8  
- Packing Group II  
- Special Provisions -  
- Marine pollutant No

RID  
- UN/ID No. UN2796  
- Proper shipping name Battery fluid, acid  
- Hazard Class 8  
- Packing Group II  
- Classification code C1  
- Special Provisions -  
- Labels 8

ADR  
- UN/ID No. UN2796  
- Proper shipping name Battery fluid, acid  
- Hazard Class 8  
- Packing Group II  
- Classification code C1  
- Special Provisions -  
- Labels 8

ADN  
- Not regulated

15. REGULATORY INFORMATION

International Inventories  
- TSCA Complies  
- DSL/NDSL Complies  
- EINECS/ELINCS Complies  
- ENCS Complies  
- IECSC Complies  
- KECL Complies  
- PICCS Complies  
- AICS Complies  

Legend:  
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List  
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
- ENCS - Japan Existing and New Chemical Substances  
- IECSC - China Inventory of Existing Chemical Substances  
- KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid 7664-93-9</td>
<td>7664-93-9</td>
<td>35</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

Acute health hazard No
Chronic Health Hazard No
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>1000 lb</td>
<td>–</td>
<td>–</td>
<td>X</td>
</tr>
<tr>
<td>7664-93-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>1000 lb</td>
<td>1000 lb</td>
<td>RQ 1000 lb final RQ</td>
</tr>
<tr>
<td>7664-93-9</td>
<td></td>
<td></td>
<td>RQ 454 kg final RQ</td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations
This product may contain substances regulated by state right-to-know regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7664-93-9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

U.S. EPA Label Information
EPA Pesticide Registration Number Not available.

16. OTHER INFORMATION

Prepared By        IES Engineers
Issue Date         13-Feb-2014
Revision Date      1-Dec-2014
Revision Note      Not available.
Disclaimer
The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Interstate Batteries, Inc. assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, Interstate Batteries, Inc. assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

End of Safety Data Sheet