

# Safety Data Sheet

## 1. IDENTIFICATION




<b>Product Name:</b> Lead Acid Battery <b>Synonyms:</b> SLI Battery	<b>Product Use:</b> Vehicle Electrical System <b>Manufacturer/Supplier:</b> Johnson Controls Battery Group <b>Address:</b> P.O. Box 590 Milwaukee, WI 53201 US
<b>General Information Number:</b> (800)-333-2222 ext. 3138 <b>Contact Person:</b> Industrial Hygiene & Safety Department	<b>Emergency number:</b> CHEMTREC: 800-424-9300

**NOTE:** The Johnson Controls sealed cell/battery is considered an article as defined by 29 CFR 1910.1200 (OSHA Hazard Communication Standard). The information contained in this SDS is supplied at the customer's request for information only.

## 2. HAZARD(S) IDENTIFICATION

Health		Environmental		Physical
Toxicity (repeated exposure)	Category 2	Aquatic	Chronic 1	Explosive Chemical Division 1.3
Acute Toxicity (Oral/Dermal/Inhalation)	Category 4	Aquatic	Acute 1	
Skin Corrosion/Irritation	Category 1A			
Eye Damage	Category 1			
Reproductive	Category 1A			
Carcinogenicity (lead)	Category 2A			
Carcinogenicity (acid mist)	Category 1A			
Specific Target Organ	Category 1A			

### Label Elements:

Health	Environmental	Physical
		
<b>Hazard Statements</b> <b>DANGER!</b> Causes severe skin burns and eye damage. Causes serious eye damage. May damage fertility or the unborn child if ingested or inhaled. May cause cancer if ingested or inhaled. Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure.	<b>Precautionary Statements</b> Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing, eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Causes skin irritation, serious eye damage. Contact with internal components may cause irritation or severe burns. Avoid contact with internal acid. Irritating to eyes, respiratory system, and skin.	

May form explosive air/gas mixture during charging.  
Extremely flammable gas (hydrogen).  
Explosive, fire, blast or projection hazard.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS (Chemical/Common Names):	CAS No.:	% by Wt:
Lead	7439-92-1	34
Lead Oxide	1309-60-0	31
Sulfuric Acid	7664-93-9	34
Lead Sulfate	7446-14-2	<1

Composition Comments

All concentrations are in percent by weight.

### 4. FIRST AID MEASURES

**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 exposures that may occur during battery production or container breakage or under extreme heat conditions such as fire.**

<b>Inhalation</b>	Sulfuric Acid: Remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician. Lead: Remove from exposure, gargle, wash nose and lips; consult physician.
<b>Skin contact</b>	Sulfuric Acid: Give large quantities of water; Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death; consult physician. Lead: Consult physician immediately.
<b>Eye contact</b>	Sulfuric Acid and Lead: Flush immediately with large amounts of water for at least 15 minutes while lifting lids; Seek immediate medical attention if eyes have been exposed directly to acid.
<b>Ingestion</b>	Sulfuric Acid: Give large quantities of water; Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death; consult physician. Lead: Consult physician immediately.

### 5. FIRE FIGHTING MEASURES

<b>Flash Point</b>	Not applicable unless individual components exposed.
<b>Auto ignition</b>	No data available.
<b>Temperature</b>	
<b>Flammable Limits</b>	LEL = 4.1% (Hydrogen Gas in air) ; UEL = 74.2%
<b>Extinguishing</b>	CO <sub>2</sub> ; foam; dry chemical. Do not use carbon dioxide directly on cells. Avoid breathing vapors. Use appropriate media for surrounding fire.
<b>Media</b>	
<b>Special Fire Fighting Procedures</b>	Use positive pressure, self-contained breathing apparatus. Beware of acid splatter during water application and wear acid-resistant clothing, gloves, face and eye protection. If batteries are on charge, shut off power to the charging equipment, but note that strings of series connected batteries may still pose risk of electric shock even when charging equipment is shut down.
<b>Unusual Fire and Explosion Hazard</b>	Highly flammable hydrogen gas is generated during charging and operation of batteries. If ignited by burning cigarette, naked flame or spark, may cause battery explosion with dispersion of casing fragments and corrosive liquid electrolyte. Carefully follow manufacturer's instructions for installation and service. Keep away all sources of gas ignition and do not allow metallic articles to simultaneously contact the negative and positive terminals of a battery. Follow manufacturer's instructions for installation and service.

### 6: ACCIDENTAL RELEASE MEASURES

<b>Protective Measures to be</b>	Stop flow of material, contain/absorb small spills with dry sand, earth, and vermiculite. Do not use combustible materials. If possible, carefully neutralize spilled electrolyte with soda ash, sodium
----------------------------------	---

<b>Taken if Material is Released or Spilled</b>	bicarbonate, lime, etc. Wear acid-resistant clothing, boots, gloves, and face shield. Do not allow discharge of un-neutralized acid to sewer. Acid must be managed in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA.
<b>Waste Disposal Method</b>	Dispose of as a hazardous waste. Dispose of in accordance with applicable local, state and federal regulations.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Unless involved in recycling operations, do not breach the casing or empty the contents of the battery. Handle carefully and avoid tipping, which may allow electrolyte leakage. There may be increasing risk of electric shock from strings of connected batteries. Keep containers tightly closed when not in use. If battery case is broken, avoid contact with internal components. Keep vent caps on and cover terminals to prevent short circuits. Place cardboard between layers of stacked automotive batteries to avoid damage and short circuits. Keep away from combustible materials, organic chemicals, reducing substances, metals, strong oxidizers and water. Use banding or stretch wrap to secure items for shipping.
<b>Storage</b>	Store batteries under roof in cool, dry, well-ventilated areas separated from incompatible materials and from activities that may create flames, spark, or heat. Store on smooth, impervious surfaces provided with measures for liquid containment in the event of electrolyte spills. Keep away from metallic objects that could bridge the terminals on a battery and create a dangerous short-circuit. Room ventilation is required for batteries utilized for standby power generation. Never recharge batteries in an unventilated, enclosed space.
<b>Charging:</b>	There is a possible risk of electric shock from charging equipment and from strings of series connected batteries, whether or not being charged. Shut-off power to chargers whenever not in use and before detachment of any circuit connections. Batteries being charged will generate and release flammable hydrogen gas. Charging space should be ventilated. Keep battery vent caps in position. Prohibit smoking and avoid creation of flames and sparks nearby. Wear face and eye protection when near batteries being charged.
<b>Other</b>	Follow Manufacturers Recommendations regarding maximum recommended currents and operating temperature range. Do not overcharge beyond the recommended upper charging voltage limit. Applying pressure or deforming the battery may lead to disassembly followed by eye, skin and throat irritation.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational exposure limits

#### US OSHA Specifically Regulated Substances (29 CFR 1910.1001 – 1050)

Ingredient	CAS Number	Type	Value
Lead	7439-92-1	TWA	0.05 mg/m <sup>3</sup>
Lead Oxide	1309-60-0	TWA	0.05 mg/m <sup>3</sup>
Lead Sulfate	7446-14-2	TWA	0.05 mg/m <sup>3</sup>

#### US OSHA Table Z-1 Limits for Air Contaminants (29CFR 1910.1000)

Ingredient	CAS Number	Type	Value
Sulfuric Acid	7664-93-9	PEL	1 mg/m <sup>3</sup>

#### US ACGIH Threshold Limit Values

Ingredient	CAS Number	Type	Value	Form
Lead	7439-92-1	TWA	0.05 mg/m <sup>3</sup>	
Lead Oxide	1309-60-0	TWA	0.05 mg/m <sup>3</sup>	
Lead Sulfate	7446-14-2	TWA	0.05 mg/m <sup>3</sup>	
Sulfuric Acid	7664-93-9	TWA	0.2 mg/m <sup>3</sup>	Thoracic Fractions

#### US NIOSH: Pocket Guide to Chemical Hazards

Ingredient	CAS Number	Type	Value
Lead	7439-92-1	TWA	0.05 mg/m <sup>3</sup>

Lead Oxide	1309-60-0	TWA	0.05 mg/m <sup>3</sup>
Sulfuric Acid	7664-93-9	TWA	1 mg/m <sup>3</sup>

**Biological limit values**

**ACGIH Biological Exposure Indices**

Ingredient	Value	Determinant	Specimen	Sampling Time
Lead	300 µg/l	Lead	Blood	*
Lead Oxide	300 µg/l	Lead	Blood	*
Lead Sulfate	300 µg/l	Lead	Blood	*

\* - For Sampling details please see the source document.

**Engineering Controls (Ventilation):**

Store and handle in well-ventilated area. If mechanical ventilation is used, components must be acid-resistant. Handle batteries cautiously, do not tip to avoid spills. Make certain vent caps are on securely. If battery case is damaged, avoid bodily contact with internal components. Wear protective clothing, eye and face protection, when filling, charging, or handling batteries. Do not allow metallic materials to simultaneously contact both the positive and negative terminals of the batteries. Charge batteries in areas with adequate ventilation. General dilution ventilation is acceptable.

**Respiratory Protection (NIOSH/MSHA approved):**

NONE REQUIRED FOR NORMAL HANDLING OF THE FINISHED PRODUCT.

When concentrations of sulfuric acid mist are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection.

**Skin Protection:**

NONE REQUIRED FOR NORMAL HANDLING OF THE FINISHED PRODUCT.

If battery case is damaged, use rubber or plastic acid-resistant gloves with elbow-length gauntlet, acid-resistant apron, clothing and boots.

**Eye Protection:**

NONE REQUIRED FOR NORMAL HANDLING OF THE FINISHED PRODUCT.

If necessary to handle damaged product where exposure to the organic electrolyte is a possibility, chemical splash goggles and a face shield are recommended.

**Other Protection:**

In areas where water and sulfuric acid solutions are handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with unlimited water supply. Chemically impervious apron and face shield recommended when adding water or electrolyte to batteries. Wash Hands after handling.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance and Odor</b>	Manufactured article; no apparent odor. Electrolyte is a clear liquid with a sharp, penetrating, pungent odor.
<b>Odor Threshold</b>	Not applicable.
<b>pH</b>	Not applicable
<b>Boiling Point</b>	Not applicable unless individual components exposed. Battery Electrolyte (Acid) - 230 - 233.6 °F (110 - 112 °C) Lead - 3191 °F (1755 °C)
<b>Melting Point</b>	Lead - 621.32 °F (327.4 °C)
<b>Specific Gravity (H<sub>2</sub>O = 1)</b>	1.215 to 1.350
<b>Flash Point</b>	498.2 °F (259.0 °C) Hydrogen
<b>Evaporation Rate (Butyl Acetate = 1)</b>	< 1
<b>Vapor Pressure (mm Hg @ 20 °C)</b>	Battery Electrolyte (Acid) 11.7

<b>Flammability</b>	
<b>Upper/lower flammability or explosive limits</b>	Hydrogen Flammability Limit Lower- 4.1 % Flammability Limit Upper – 74.2 %
<b>Vapor Pressure</b>	Not applicable.
<b>Vapor Density</b>	3.4 (Air = 1) Battery Electrolyte (Acid)
<b>Relative Density</b>	1.21 - 1.3 Battery Electrolyte (Acid)
<b>Solubility</b>	Lead and Lead dioxide are not soluble. 100 % Battery Electrolyte (Acid).
<b>% Volatile by Weight</b>	Not applicable unless individual components exposed.
<b>Partition coefficient (n-octanol/water)</b>	Not applicable
<b>Auto-ignition temperature</b>	1076 °F (580 °C) Hydrogen.
<b>Decomposition temperature</b>	Not applicable
<b>Viscosity</b>	Not applicable

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	The sealed battery is considered stable.
<b>Conditions to Avoid</b>	Sparks and other sources of ignition; high temperature; over charging.
<b>Incompatibility (materials to avoid)</b>	Electrolyte: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, sulfur trioxide gas, strong oxidizers, and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas.  Lead compounds: Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen, and reducing agents.  Arsenic compounds: strong oxidizers; bromine azide. NOTE: hydrogen gas can react with inorganic arsenic to form the highly toxic gas – arsine
<b>Hazardous Decomposition Products</b>	Electrolyte: Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, hydrogen sulfide.  Lead compounds: Temperatures above the melting point are likely to produce toxic metal fume, vapor, or dust; contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.
<b>Hazardous Polymerization</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**NOTE: Under normal conditions of use, this product does not present a health hazard. The following information is provided for organic electrolyte and lead exposure that may occur due to container breakage or under extreme conditions such as fire. Organic electrolyte – reacts with moisture/water to produce hydrofluoric acid in trace quantities. Hydrofluoric acid is extremely corrosive and toxic. In severe exposures it acts as a systemic poison and causes severe burns. The reaction may be delayed. Any contact with this material, even minor, requires immediate medical attention.**

### ROUTES AND METHODS OF ENTRY

<b>Inhalation</b>	<b>EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE.</b>  Sulfuric Acid: Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation. Lead Compounds: Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.
<b>Skin Contact</b>	<b>EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE.</b>  Sulfuric Acid: Severe irritation, burns and ulceration. Lead Compounds: Not absorbed through the skin.

**Skin Absorption****EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE.**

In the event of overcharging or damage to the unit, exposure to organic electrolyte solution/mist is possible. Extreme exposures to the organic electrolyte can be absorbed through the skin.

**Eye Contact****EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE.**

Sulfuric Acid: Severe irritation, burns, cornea damage, and blindness.  
Lead Compounds: May cause eye irritation.

**Ingestion****EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE.**

Sulfuric Acid: May cause severe irritation of mouth, throat, esophagus and stomach.  
Lead Compounds: Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea and severe cramping. This may lead rapidly to systemic toxicity and must be treated by a physician.

**SIGNS AND SYMPTOMS OF OVEREXPOSURE****Acute Effects****EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE.**

Sulfuric Acid: Severe skin irritation, damage to cornea, upper respiratory irritation.  
Lead Compounds: Symptoms of toxicity include headache, fatigue, abdominal pain, loss of appetite, muscular aches and weakness, sleep disturbances and irritability

**Chronic Effects****EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE.**

Sulfuric Acid: Possible erosion of tooth enamel, inflammation of nose, throat & bronchial tubes.  
Lead Compounds: Anemia; neuropathy, particularly of the motor nerves, with wrist drop; kidney damage; reproductive changes in males and females. Repeated exposure to lead and lead compounds in the workplace may result in nervous system toxicity. Some toxicologists report abnormal conduction velocities in persons with blood lead levels of 50 µg/100 ml or higher. Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**

Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions. Contact of sulfuric acid with skin may aggravate diseases such as eczema and contact dermatitis. Lead and its compounds can aggravate some forms of kidney, liver and neurologic diseases.

**ADDITIONAL HEALTH DATA**

All heavy metals, including the hazardous ingredients in this product, are taken into the body primarily by inhalation and ingestion. Most inhalation problems can be avoided by adequate precautions such as ventilation and respiratory protection covered in Section 8. Follow good personal hygiene to avoid inhalation and ingestion: wash hands, face, neck and arms thoroughly before eating, smoking or leaving the work site. Keep contaminated clothing out of non-contaminated areas, or wear cover clothing when in such areas. Restrict the use and presence of food, tobacco and cosmetics to non-contaminated areas. Work clothes and work equipment used in contaminated areas must remain in designated areas and never taken home or laundered with personal non-contaminated clothing. This product is intended for industrial use only and should be isolated from children and their environment.

The 19th Amendment to EC Directive 67/548/EEC classified lead compounds, but not lead in metal form, as possibly toxic to reproduction. Risk phrase 61: May cause harm to the unborn child, applies to lead compounds, especially soluble forms.

**Toxicological Data****Constituents****Species****Test Results**

Sulfuric Acid (CAS 7664-93-9)

**Acute***Oral*

LD50

Rat

2140 mg/kg

**CARCINOGENICITY**

Sulfuric Acid: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mist containing sulfuric acid" as a Category I 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. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product, such as overcharging, may result in the generation of sulfuric acid mist.

Lead Compounds: Lead is listed as a Group 2A- carcinogen, likely in animals at extreme doses. Per the guidance found in OSHA 29 CFR 1910.1200 Appendix F, this is approximately equivalent to GHS Category 1A. Proof of carcinogenicity in humans is lacking at present.

#### **IARC Monographs. Overall Evaluation of Carcinogenicity**

Lead (CAS 7439-92-1)	2A Probably carcinogenic to humans.
Lead oxide (CAS 1309-60-0)	2A Probably carcinogenic to humans.
Lead sulfate (CAS 7446-14-2)	2A Probably carcinogenic to humans.

#### **NTP Report on Carcinogens**

Lead oxide (CAS 1309-60-0)	Reasonably Anticipated to be a Human Carcinogen.
Lead sulfate (CAS 7446-14-2)	Reasonably Anticipated to be a Human Carcinogen.

#### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

<b>Reproductive toxicity</b>	May damage fertility or the unborn child.
<b>Specific target organ toxicity - single exposure</b>	No data available.
<b>Specific target organ toxicity - repeated exposure</b>	Lead: May cause damage to organs (blood, central nervous system) through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not classified.

## **12. ECOLOGICAL INFORMATION**

<b>Environmental Fate</b>	Lead is very persistent in soil and sediments. No data on environmental degradation. Mobility of metallic lead between ecological compartments is slow. Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants but little bioaccumulation occurs through the food chain. Most studies include lead compounds and not elemental lead
<b>Environmental toxicity</b>	Aquatic Toxicity:
Sulfuric Acid	24-hr LC50, freshwater fish (Brachydanio rerio): 82 mg/L 96 hr- LOEC, freshwater fish (Cyprinus carpio): 22 mg/L
Lead	48 hr LC50 (modeled for aquatic invertebrates): <1 mg/L, based on lead bullion
<b>Additional Information</b>	No known effects on stratospheric ozone depletion Volatile organic compounds: 0% (by Volume) Water Endangering Class (WGK): NA

## **13. DISPOSAL CONSIDERATIONS**

<b>Waste disposal method</b>	Material should be recycled if possible. Lead-acid batteries are completely recyclable. Dispose waste and residues in accordance with applicable federal, state, and local regulations.
<b>Hazardous waste code</b>	D008: Lead
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or packaging may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

## **14. TRANSPORT INFORMATION**

**Note: Transportation requirements do not apply once the battery pack has been installed in a vehicle as part of the vehicle's functional components.**

#### United States DOT:

DOT rules specified in 49 CFR 173.59 regulate the transport of wet spillable batteries.

49 CFR 173.59 (e) specifies that 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.

If any of these requirements are not met, the batteries must be shipped as hazardous materials

<b>Proper Shipping name</b>	Batteries, Wet, Filled with Acid
<b>UN number</b>	UN2794
<b>Hazard classification</b>	8
<b>Packing group</b>	III
<b>Labels</b>	Corrosive

#### IATA

<b>Proper Shipping name</b>	Batteries, Wet, Filled with Acid
<b>Packing group</b>	None
<b>Hazardous class</b>	8
<b>Label/Placard Required</b>	Corrosive
<b>UN Identification</b>	UN2794
<b>Environmental Hazards</b>	No
<b>ERG Code</b>	8L
<b>Reference</b>	IATA packing instructions 870 (IATA DRG Edition 54)

#### IMDG

<b>Proper Shipping name</b>	Batteries, Wet, Filled with Acid
<b>Packing group</b>	N/A
<b>Hazardous class</b>	8
<b>Label/Placard Required</b>	Corrosive
<b>UN Identification</b>	UN2794
<b>Environmental Hazards</b>	No
<b>EmS</b>	F-A, S-B
<b>Reference</b>	IMDG packing instructions P801

### 15. REGULATORY INFORMATION

This product is an article pursuant to 29 CFR 1910.1200 and as such is not subjected to the OSHA Hazard Communication Standard.

#### TSCA

##### TSCA Section 8b – Inventory Status:

Inventory Status: All chemicals comprising this product are either exempt or listed on the TSCA Inventory.

##### TSCA Section 12b (40 CFR Part 707.60(b))

No notice of export will be required for articles, except PCB articles, unless the Agency so requires in the context of individual section 5, 6, or 7 actions.

##### TSCA Section 13 (40 CFR Part 707.20)

No import certification required (EPA 305-B-99-001, June 1999, Introduction to the Chemical Import Requirements of the Toxic Substances Control Act, Section IV.A)

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Lead (CAS 7439-92-1)	Reproductive toxicity
----------------------	-----------------------



	Central nervous system
	Kidney
	Blood
Lead Oxide (CAS 1309-60-0)	Acute toxicity
	Reproductive toxicity
	Central nervous system
	Kidney
	Blood
Lead Sulfate (CAS 7446-14-2)	Acute toxicity
	Reproductive toxicity
	Central nervous system
	Kidney
	Blood
	Acute toxicity

### EPA SARA Title III

#### Section 302 EPCRA Extremely Hazardous Substances (EHS):

Sulfuric acid is a listed "Extremely Hazardous Substance" under EPCRA, with a Threshold Planning Quantity (TPQ) of 1,000 lbs. EPCRA Section 302 notification is required if 500 lbs. or more of sulfuric acid is present at one site (40 CFR 370.10). For more information consult 40 CFR Part 355.

#### Section 304 CERCLA Hazardous Substances:

Reportable Quantity (RQ) for spilled 100% sulfuric acid under CERCLA (Superfund) and EPCRA (Emergency Planning and Community Right to Know Act) is 1,000 lbs. State and local reportable quantities for spilled sulfuric acid may vary.

#### Section 311/312 Hazard Categorization:

EPCRA Section 312 Tier Two reporting is required for non-automotive batteries if sulfuric acid is present in quantities of 500 lbs. or more and/or if lead is present in quantities of 10,000 lbs. or more. For more information consult 40 CFR 370.10 and 40 CFR 370.40

#### Section 313 EPCRA Toxic Substances:

40 cfr section 372.38 (b) states: If a toxic chemical is present in an article at a covered facility, a person is not required to consider the quantity of the toxic chemical present in such article when determining whether an applicable threshold has been met under § 372.25, § 372.27, or § 372.28 or determining the amount of release to be reported under § 372.30. This exemption applies whether the person received the article from another person or the person produced the article. However, this exemption applies only to the quantity of the toxic chemical present in the article.

#### Supplier Notification:

This product contains toxic chemicals that may be reportable under EPCRA Section 313 Toxic Chemical Release Inventory (Form R) requirements. For a manufacturing facility under SIC codes 20 through 39, the following information is provided to enable you to complete the required reports:

#### RCRA

Spent Lead Acid Batteries are subject to streamlined handling requirements when managed in compliance with 40 CFR section 266.80 or 40 CFR part 273. Waste sulfuric acid is a characteristic hazardous waste; EPA hazardous waste number D002 (corrosivity) and D008 (lead).

#### Other federal regulations

##### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Lead (CAS 7439-92-1)  
Lead Oxide (CAS 1309-60-0)  
Lead Sulfate (CAS 7446-14-2)

##### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Lead Sulfate (CAS 7446-14-2)

##### Safe Drinking Water Act (SDWA)

Not regulated

##### Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Sulfuric acid (CAS 7664-93-9) 6552

##### Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Sulfuric acid (CAS 7664-93-9) 20 % WV

**DEA Exempt Chemical Mixtures Code Number**

Sulfuric acid (CAS 7664-93-9) 6552

**US State Regulations**

**US. Massachusetts RTK – Substance List**

Lead ( CAS 7439-92-1)  
Lead Oxide (CAS 1309-60-0)  
Lead Sulfate (CAS 7446-14-2)

**US New Jersey Worker and Community Right-to-know Act**

Lead ( CAS 7439-92-1)  
Lead Oxide (CAS 1309-60-0)  
Lead Sulfate (CAS 7446-14-2)  
Sulfuric acid (CAS 7664-93-9)

**US Pennsylvania Worker and Community Right-to-know Law**

Lead ( CAS 7439-92-1)  
Sulfuric acid (CAS 7664-93-9)

**US Rhode Island RTK**

Lead ( CAS 7439-92-1)  
Lead Oxide (CAS 1309-60-0)  
Lead Sulfate (CAS 7446-14-2)  
Sulfuric acid (CAS 7664-93-9)

**US. California Proposition 65**

WARNING: This product contains chemicals known to the State of California to cause cancer. Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.

\*Battery companies not party to the 1999 consent judgment with Mateel Environmental Justice Foundation should include a Proposition 65 Warning that complies with the current version of Proposition 65.

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Lead ( CAS 7439-92-1)  
Lead Oxide (CAS 1309-60-0)  
Lead Sulfate (CAS 7446-14-2)  
Sulfuric acid (CAS 7664-93-9)

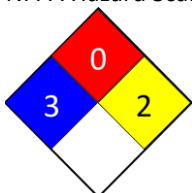
**International Inventories**

Country(s) or Region	Inventory Name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\* A “Yes” indicates this product complies with the inventory requirements administered by the governing country(s). A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. OTHER INFORMATION**

**Issue Date:** 04/01/2015  
**Revision Date:** -  
**Version #:** 01  
**Further information:** NFPA Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3=Serious 4 = Severe  
**NFPA ratings**



**Disclaimer** Johnson Controls Battery Group, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be

used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.