SAFETY DATA SHEET

VALVE-REGULATED LEAD-ACID BATTERIES

1. PRODUCT AND COMPANY IDENTIFICATION

IDENTIFICATION OF PRODUCTS

862760 - 5799000010 Valve Regulated Lead Acid Battery

COMPANY IDENTIFICATION

Schumacher Europe SPRL
ZI – Rue de la Baronnerie 3
B-4920 HARZE
BELGIUM
Tel : 0032 (4) 388 20 17

2. HAZARDS IDENTIFICATION

Emergency Overview

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

In case of rupture:

Corrosive

The product causes burns of eyes, skin and mucous membranes

Appearance: No information available.

Physical State: Solid.

Odor: Odorless

Potential Health Effects

Principle Routes of Exposure Skin contact.

Acute Toxicity

Eyes Corrosive to the eyes and may cause severe damage including blindness.

Skin Causes burns.

Inhalation Harmful by inhalation. Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns.

Ingestion Harmful if swallowed. Can burn mouth, throat, and stomach.

Chronic Effects

Lead compounds may be absorbed by ingestion, by inhalation and through the skin. Lead may damage kidney function, the blood forming system and the reproductive system. Avoid repeated exposure.

Main Symptoms

Severe exposures can lead to shock, circulatory collapse, and death Lead poisoning is characterized by a metallic taste in the mouth, loss of appetite indigestion, nausea, vomiting, constipation, sleep disturbances and overall weakness.

Aggravated Medical Conditions None known.

Environment Hazard See Section 12 for additional Ecological Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %

Lead	7439-92-1	65～75
Sulfuric acid	7664-93-9	10～20
ABS resin	9003-56-9	～5
Tin	7440-31-5	＜0.5
Calcium	7440-70-2	＜0.1

4. FIRST AID MEASURES

General Advice
First aid is upon rupture of sealed battery.
Eye Contact
Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.
Skin Contact
Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation
Move to fresh air. Call a physician or Poison Control Center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion
Immediate medical attention is required. Call a physician or Poison Control Center immediately. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Remove from exposure, lie down.
Notes to Physician
Treat symptomatically.
Protection of First-aiders
Use personal protective equipment. Avoid contact with skin, eyes and clothing.

5. FIRE-FIGHTING MEASURES

Flammable Properties
Not flammable.
Flash Point
Not determined.
Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Uniform Fire Code
Corrosive: Acid-Liquid
Hazardous Combustion Products
Hazardous metal fumes and oxides.
Explosion Data Sensitivity to Mechanical Impact
No.
Sensitivity to Static Discharge
No.
Specific Hazards Arising from the Chemical
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.
Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Health Hazard 3 **Flammability 0 Stability 2 Physical and Chemical Hazards**

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not get in eyes, on skin,or on clothing.

Environmental Precautions

Refer to protective measures listed in Sections 7 and 8.

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up

In case of rupture: Use personal protective equipment. Dam up. Soak up with inert absorbent material. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly.

Other Information

Refer to protective measures listed in Sections 7 and 8.

7. HANDLING AND STORAGE

Handling

Handle in accordance with good industrial hygiene and safety practice.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Exposure guideline

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lead 7439-92-1	TWA: 0.05 mg/m3	TWA: 50 µg/m3 Action Level: 30 µg/m3 Poison, See 29 CFR 1910.1025	IDLH: 100 mg/m3 TWA: 0.050 mg/m3
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m3 thoracic fraction	TWA: 1 mg/m3 (vacated) TWA: 1 mg/m3	IDLH: 15 mg/m3 TWA: 1 mg/m3
Tin 7440-31-5	TWA: 2 mg/m3	TWA: 2 mg/m3 Sn except oxides (vacated) TWA: 2 mg/m3	IDLH: 100 mg/m3 TWA: 2 mg/m3

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value.

OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits.

NIOSH IDLH: Immediately Dangerous to Life or Health.

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir. , 1992).

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment

Eye/Face Protection Tightly fitting safety goggles.
Skin and Body Protection Wear protective gloves/clothing.

Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance No information available
Odor Odorless.
Odor Threshold No information available
Physical State Solid
pH No information available
Flash Point No information available.
Auto-ignition Temperature No information available
Decomposition Temperature No information available
Boiling Point/Range No information available
Melting Point/Range No information available
Flammability Limits in Air No information available
Explosion Limits No information available
Water Solubility Immiscible in water
Solubility No information available
Evaporation Rate No information available
Vapor Pressure No data available
Vapor Density Partition Coefficient: noctanol/water No information available

10. STABILITY AND REACTIVITY

Stability Stable under recommended storage conditions.
Incompatible Products Incompatible with strong acids and bases. Incompatible with oxidizing agents.
Conditions to Avoid Exposure to air or moisture over prolonged periods.
Hazardous Decomposition Products Thermal decomposition can lead to release of toxic/corrosive gases and vapors
Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXOLOGICAL INFORMATION

Acute Toxicity
Product Information Product does not present an acute toxicity hazard based on known or supplied information.
Irritation Causes severe irritation and or burns

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfuric acid	= 2140 mg/kg (Rat)	-	= 510 mg/m3(Rat) 2 h

Chronic Toxicity
Lead compounds may be absorbed by ingestion, by inhalation and through the skin. Lead may damage kidney function, the blood forming system and the reproductive system. Avoid repeated exposure.

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Lead	A3	Group 2A	Reasonably Anticipated	X
Sulfuric acid	A2	Group 1	Known	X
ABS resin		Group 3		

ACGIH: (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA: (Occupational Safety & Health Administration)
X - Present

Reproductive Toxicity	Product is or contains a chemical which is a known or suspected reproductive hazard.
Developmental Toxicity	Contains ingredients that have suspected developmental hazards. Inorganic lead compounds can cause developmental damage.
Target Organ Effects	None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Lead		LC50: 0.44 mg/L (96 h semi-static) Cyprinus carpio LC50: 1.17 mg/L (96 h flow-through) Oncorhynchus mykiss LC50: 1.32 mg/L (96 h static) Oncorhynchus mykiss		EC50: 600 µg/L (48 h) water flea
Sulfuric acid		LC50: > 500 mg/L (96 h static) Brachydanio rerio		EC50: 29 mg/L (24 h) Daphnia magna

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods
This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Should not be released into the environment.
Contaminated Packaging
Do not re-use empty containers.
US EPA Waste Number
D002 D008

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Lead - 7439-92-1	(hazardous constituent - no waste number)	Included in waste streams: F035, F037, F038, F039, K002, K003, K005, K046, K048, K049, K051, K052, K061, K062, K064, K065, K066, K069, K086, K100, K176	= 5.0 mg/L regulatory level	

California Hazardous Waste Codes 792

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

Chemical Name	California EHW	California Carc	California Hazardous Waste	California Waste - Part 2
Lead			Toxic	TCLP (for CA Toxicity): 5.0 mg/L
Sulfuric acid			Toxic Corrosive	
Calcium	Ignitable Reactive			

14. TRANSPORT INFORMATION

Note: Exempt from hazardous materials regulations per 49CFR173.159 (d).
DOT Description NOT REGULATED NON-SPILLABLE BATTERY
TDG Description Not regulated NON-SPILLABLE BATTERY
MEX Description Not regulated NON-SPILLABLE BATTERY
ICAO Description Not regulated NON-SPILLABLE BATTERY
IATA Description Not regulated NON-SPILLABLE BATTERY
IMDG/IMO Description Not regulated NON-SPILLABLE BATTERY

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Not determined

U.S. 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:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Lead	7439-92-1	65～75	0.1
Sulfuric acid	7664-93-9	10～20	1.0

SARA 311/312 Hazard Categories Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

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):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Lead		X	X	
Sulfuric acid	1000 lb			X

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Lead	7439-92-1	65~75				

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):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Lead	10 lb	
Sulfuric acid	1000 lb	1000 lb

U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Lead	7439-92-1	Carcinogen Developmental Female Reproductive Male Reproductive
Sulfuric acid	7664-93-9	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Lead	X	X	X	X	X
Tin	X	X	X		
Calcium	X	X	X		
Sulfuric acid	X	X	X	X	X

International Regulations

Mexico - Grade Minimum risk, Grade 0

Chemical Name	Carcinogen Status	Exposure Limits
Lead	A3	Mexico: TWA= 0.15 mg/m3
Tin		Mexico: TWA 2 mg/m3 Mexico: STEL 4 mg/m3
Sulfuric acid	A2	Mexico: TWA 1 mg/m3

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
D2A Very toxic materials E Corrosive material

Chemical Name	NPRI
Lead	X
Sulfuric acid	X

Legend
NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

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General Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.