SAFETY DATA SHEET

Issuing Date 31-May-2013 Revision Date 22-Apr-2015 Revision Number 2



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

Product identifier

Product Name Valve Regulated Lead Acid Batteries

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Lead Acid (Non-Spillable) Battery

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name Kung Long Batteries Industrial Co., Ltd.

Supplier Address No. 6, Tzu-Li 3 Rd. Nantou City 54067, Taiwan

Cum Cong Nghiep Duc My-xa Duc Hoa Dong-Huyen Duc Hoa- Tinh Long An 81999

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Supplier Email joe@mail.klb.com.tw

Emergency telephone number

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.

Acute toxicity - Oral Category 4



Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 2

GHS Label elements, including precautionary statements

Emergency Overview

Signal word Danger

Hazard Statements

Harmful if swallowed

Harmful if inhaled

Causes severe skin burns and eye damage

Causes serious eye irritation

May cause cancer

May damage fertility or the unborn child

May cause damage to organs through prolonged or repeated exposure



This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance This is a battery. In case of rupture: the above hazards exist.

Appearance No information available Physical State No information available Odor No information available

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

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

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

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

Specific treatment (see supplemental first aid instructions on this label)

Eves

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor/physician

Skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse



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Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell Immediately call a POISON CENTER or doctor/physician

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

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)

Not applicable

Unknown Toxicity

0.6% of the mixture consists of ingredient(s) of unknown toxicity

Other information

Very toxic to aquatic life with long lasting effects

Interactions with Other Chemicals

Use of alcoholic beverages may enhance toxic effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical Name	CAS No	Weight-%	Trade Secret
Lead	7439-92-1	30 - 60	*
Lead peroxide	1309-60-0	10 - 30	*
Sulfuric acid	7664-93-9	10 - 30	*

^{*}The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

General Advice First aid is upon rupture of sealed battery.

Eye Contact 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. Seek immediate medical attention/advice. Remove contact lenses, if present and easy

to do. Continue rinsing.

Skin Contact Immediate medical attention is required. Wash off immediately with soap and

plenty of water while removing all contaminated clothes and shoes.

Inhalation Remove to fresh air. If symptoms persist, call a physician. If breathing has

stopped, give artificial respiration. Get medical attention immediately. If not



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breathing, give artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Seek immediate medical attention/advice. Delayed pulmonary edema may occur.

Ingestion

Do NOT induce vomiting. Rinse mouth. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects

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

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.



5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

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.

Uniform Fire Code Corrosive: Acid-Liquid

Toxic: Liquid

Hazardous Combustion Products

Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge No.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate

ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental Precautions

Environmental Precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage

if safe to do so. Should not be released into the environment. Do not allow to enter into

soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.



7. HANDLING AND STORAGE

Precautions for safe handling

Handling In case of rupture: Handle in accordance with good industrial hygiene and safety practice.

Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash

before reuse.

Conditions for safe storage, including any incompatibilities

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

moisture. Store locked up. Keep out of the reach of children. Store away from other

materials.

Incompatible Products Acids. Bases. Oxidizing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lead	TWA: 0.05 mg/m ³	TWA: 50 μg/m³ TWA: 50 μg/m³	IDLH: 100 mg/m ³
7439-92-1		Pb	TWA: 0.050 mg/m ³
		Action Level: 30 µg/m³ Poison,	
		See 29 CFR 1910.1025 Action	
		Level: 30 µg/m³ Pb Poison, See	
		29 CFR 1910.1025	
Lead peroxide	TWA: 0.05 mg/m ³ Pb	TWA: 50 μg/m³ Pb	IDLH: 100 mg/m ³ Pb
1309-60-0		Action Level: 30 μg/m³ Pb	TWA: 0.050 mg/m ³ Pb
		Poison, See 29 CFR 1910.1025	-
Sulfuric acid	TWA: 0.2 mg/m3 thoracic fraction	TWA: 1 mg/m ³	IDLH: 15 mg/m ³
7664-93-9		(vacated) TWA: 1 mg/m ³	TWA: 1 mg/m ³

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) See section 15 for national exposure control parameters

Appropriate engineering controls

Engineering Measures Showers

Eyewash stations Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection None required for consumer use. If splashes are likely to occur:. Face protection shield.

Skin and Body Protection Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant

apron. Impervious gloves.

Respiratory ProtectionNo 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. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State
Appearance
Color
No information available

Property Values Remarks Method No data available None known No data available Melting / freezing point None known No data available Boiling point / boiling range None known None known Flash Point No data available **Evaporation Rate** No data available None known Flammability (solid, gas) No data available None known Flammability Limit in Air **Upper flammability limit** No data available

Lower flammability limit No data available Vapor pressure No data available None known Vapor density No data available None known **Specific Gravity** No data available None known Water Solubility Immiscible in water None known Solubility in other solvents No data available None known Partition coefficient: n-octanol/waterNo data available None known No data available None known **Autoignition temperature** No data available None known **Decomposition temperature** Kinematic viscosity No data available None known No data available Dynamic viscosity None known No data available **Explosive properties**

No data available

Other Information

Oxidizing Properties

Softening Point

VOC Content (%)

Particle Size

Particle Size Distribution

No data available
No data available

Particle Size Distribution

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10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Exposure to air or moisture over prolonged periods.

Incompatible materials

Acids. Bases. Oxidizing agent.

Hazardous Decomposition Products

Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

In case of rupture:.

Inhalation Specific test data for the substance or mixture is not available. Corrosive by inhalation.

(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs.

Pulmonary edema can be fatal. May cause irritation of respiratory tract.

Eye Contact Specific test data for the substance or mixture is not available. Causes burns. (based on

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

Expected to be an irritant based on components.

Skin Contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea,

vomiting and diarrhea. May be harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric acid 7664-93-9	= 2140 mg/kg (Rat)	-	= 510 mg/m³ (Rat) 2 h

Information on toxicological effects



Symptoms Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing. May

cause redness and tearing of the eyes.

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

Sensitization No information available.

Mutagenic Effects No information available.

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

Chemical Name	ACGIH	IARC	NTP	OSHA
Lead 7439-92-1	A3	Group 2A	Reasonably Anticipated	Х
Lead peroxide 1309-60-0	A3	Group 2A	Reasonably Anticipated	Х
Sulfuric acid 7664-93-9	A2	Group 1	Known	Х

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 Toxicology Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive Toxicity Product is or contains a chemical which is a known or suspected reproductive hazard.

Contains a known or suspected reproductive toxin.

Developmental ToxicityContains ingredients that have suspected developmental hazards.

STOT - single exposure No information available.

STOT - repeated exposureCauses damage to organs through prolonged or repeated exposure. Based on

classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from

chronic or repeated exposure. (STOT RE).

Chronic Toxicity Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw

necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Contains a known or suspected carcinogen. Contains a known or suspected reproductive toxin. Possible risk of irreversible effects. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse effects on the bone marrow and blood-forming system. 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.

Target Organ Effects Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Reproductive System. Blood.

Central Nervous System (CNS). Gingival Tissue. Kidney. Teeth. Cardiovascular system.

Hematopoietic system. Immune system. May damage the unborn child.

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
500.00 mg/kg
ATEmix (inhalation-gas)
5,625.00 ppm (4 hr)
ATEmix (inhalation-dust/mist)
1.10 mg/l
ATEmix (inhalation-vapor)
14.00 ATEmix

12. ECOLOGICAL INFORMATION

This product contains a chemical which is listed as a severe marine pollutant according to DOT

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Lead		96h LC50: = 0.44 mg/L		48h EC50: = 600 μg/L
7439-92-1		(Cyprinus carpio) 96h LC50:		
		= 1.17 mg/L (Oncorhynchus		
		mykiss) 96h LC50: = 1.32		
		mg/L (Oncorhynchus		
		mykiss)		
Sulfuric acid		96h LC50: > 500 mg/L		24h EC50: = 29 mg/L
7664-93-9		(Brachydanio rerio)		

Persistence and Degradability

No information available.

Bioaccumulation

No information available

Other adverse effects

No information available.

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13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR

261).

Contaminated Packaging Dispose of contents/containers in accordance with local regulations.

US EPA Waste Number D002 D004 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 Hazardous Waste
Lead	Toxic
7439-92-1	
Lead peroxide	Toxic
1309-60-0	
Sulfuric acid	Toxic
7664-93-9	Corrosive

14. TRANSPORT INFORMATION

DOTNOT REGULATEDProper Shipping NameNON REGULATED

Hazard Class N/A

Marine Pollutant This product contains a chemical which is listed as a severe marine pollutant according to

DOT

TDG Not regulated

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to TDG.

MEX Not regulated

ICAO Not regulated

IATA Not regulated
Proper Shipping Name NON REGULATED

Hazard Class N/A

IMDG/IMO Not regulated

Hazard Class N/A

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to

IMDG/IMO

RID Not regulated



ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

DSL All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

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

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Lead - 7439-92-1	7439-92-1	30 - 60	0.1
Lead peroxide - 1309-60-0	1309-60-0	10 - 30	0.1
Sulfuric acid - 7664-93-9	7664-93-9	10 - 30	1.0

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)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Lead 7439-92-1		X	X	
Lead peroxide 1309-60-0		Х		
Sulfuric acid 7664-93-9	1000 lb			X

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	RQ
Lead 7439-92-1	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Lead - 7439-92-1	Carcinogen



	Developmental Female Reproductive Male Reproductive	
Lead peroxide - 1309-60-0	Carcinogen Developmental Female Reproductive Male Reproductive	
Sulfuric acid - 7664-93-9	Carcinogen	
Arsenic - 7440-38-2	Carcinogen	

U.S. State Right-to-Know Regulations

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Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Lead 7439-92-1	Х	X	X	Х	X
Lead peroxide 1309-60-0	Х	Х	X	X	Х
Sulfuric acid 7664-93-9	Х	Х	X	Х	Х
Tin 7440-31-5	Х	Х	X		
Calcium 7440-70-2	Х	Х	X		

International Regulations

Mexico

National occupational exposure limits

Tallottal Cook patients on pooling intitio					
Component	Carcinogen Status	Exposure Limits			
Lead 7439-92-1 (30 - 60)	A3	Mexico: TWA= 0.15 mg/m ³			
Lead peroxide 1309-60-0 (10 - 30)	A3	Mexico: TWA 0.15 mg/m ³			
Sulfuric acid 7664-93-9 (10 - 30)	A2	Mexico: TWA 1 mg/m ³			

Mexico - Occupational Exposure Limits - Carcinogens

A2 - Suspected Human Carcinogen

A3 - Confirmed Animal Carcinogen

Canada

WHMIS Hazard Class

Non-controlled

16. OTHER INFORMATION

NFPA Health Hazards 3 Flammability 0 Instability 0 Physical and Chemical Hazards - HMIS Health Hazards 0 Flammability 0 Physical Hazard 0 Personal Protection

Prepared By Product Stewardship

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Revision Note No information available

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

End of Safety Data Sheet





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