GLENTRONICS INC

SDS
(Safety Data Sheet)

Date first : 2015.05.27
Revision No : 2
Data final : 2018.09.19

Product name	LEAD-ACID BATTERIES(Dry)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

A. Product name — LEAD-ACID BATTERIES(Dry)

B. Recommended use of the chemical and restrictions on use

Recommended use of the chemical — Electric Storage Battery

Restrictions on use — It prohibited the use of non-designated use

C. Manufacturer/supplier/distributor information

Distributer Address — Glentronics, Inc.
645 Heathrow Drive, Linconshire, IL 60069
TEL : (800) 991-0466 FAX : (847) 415-6410

Emergency telephone numbers — CHEMTREC: 1-703-527-3887 (International)
1-800-424-9300 (North America)

2. HAZARDS IDENTIFICATION

A. Hazard classification — Carcinogenicity : Category 2

Reproductive toxicity : Category 1A

B. Allocation label elements

Symbol — Specific target organ toxicity repeated exposure : Category 1

Signal word — Danger

Hazard statements — H351 Suspected of causing cancer
H360 May damage fertility or the unborn child
H372 Causes damage to organs through prolonged or repeated exposure

Precautionary statements

Prevention — P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P281 Use personal protective equipment as required.

Response — P308+P313 IF exposed or concerned: Get medical advice/ attention.
P314 Get medical advice/attention if you feel unwell.

Storage — P405 Store locked up.

Disposal — P501 Dispose of contents/container to ...

C. Other hazards which do not result in classification (NFPA)

Lead

Health — Not available

Flammability — Not available

Reactivity — Not available

Antimony

Health	Not available
Flammability	Not available
Reactivity	Not available
Tin	
Health	Not available
Flammability	Not available
Reactivity	Not available
Polypropylene	
Health	1
Flammability	1
Reactivity	0

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name / Synonym	CAS No. or ID	Content (%)
Lead	7439-92-1	85
Antimony	7440-36-0	0.4
Tin	7440-31-5	0.7
Polypropylene	9003-07-0	10

4. FIRST AID MEASURES

If a battery ruptures, 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 IMMEDIATELY.

If a battery ruptures, do not rub or scratch exposed skin. If liquid get on the skin, immediately flush the contaminated skin with water for at least 15 minutes. If liquid penetrate 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.

If a battery ruptures, 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.

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.

A. Eye contact	EYES : Not a likely route of exposure. If a battery ruptures, direct contact with the liquid or exposure to vapors or mists may cause tearing, redness, swelling, corneal damage and irreversible eye damage. Splashes in the eyes will cause severe burns.
B. Skin contact	SKIN : Not a likely route of exposure. Direct contact with internal components 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.
C. Inhalation	INHALATION : Not a likely route of exposure. If a battery ruptures, may be harmful or fatal if inhaled in a confined area. May cause severe irritation and burns of the nose, throat and respiratory tract.
D. Ingestion	INGESTION : Not a likely route of exposure. Causes serious burns of the mouth or perforation of the esophagus or stomach. May be fatal if swallowed.
E. Most important symptoms/effects, acute or delayed	* Lead may causes toxic to blood, kidneys, 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.

SDS
(Safety Data Sheet)

Date first : 2015.05.27
Revision No : 1
Data final : 2016.02.01

5. FIRE FIGHTING MEASURES

A. Suitable (and unsuitable) extinguishing media	Use extinguishing media appropriate for surrounding fire. If a battery ruptures, 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	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.

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
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

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
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. Odour	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. Odour	None
C. Odor threshold	Not available
D. pH	Not applicable
E. Melting point/freezing point	327.5℃
F. Initial boiling point and boiling range	1740℃ (1013 hPa)
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℃)
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 stabilit	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 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)	Not available

B. Persistence and degradability

Persistence	Not available
Degradability	Not available

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.

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

A. UN Number	Not Applicable
B. UN Proper shipping name	Not Applicable
C. Transport hazard class(ES)	Not Applicable
D. Packing group (If applicable)	Not Applicable
E. Marine pollutant substances (applicable/not applicable)	Not Applicable
F. Special precautions for user	Not Applicable

15. REGULATORY INFORMATION

A. Inventories

EINECS/EU	Listed (EINECS No. 231-100-4(Lead), 231-639-5(Sulfuric acid))
TSCA/US	Listed
ENCS/JAPAN	Listed (ENCS No. 1-527(Lead), 1-430(Sulfuric acid))
AICS/AUSTRALIA	Listed
DSL/CANADA	Listed
IECSC/CHINA	Listed
PICCS/PHILIPPINES	Listed
KECI/S.KOREA	Listed (KE-21887(Lead), KE-32570(Sulfuric acid))

B. International Environmental Agreement

PIC	Not listed
POPs	Not listed
Ozone depletion	Not listed

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

Classification	C; R35
Risk Phrases	R35
Safety Phrases	S1/2, S26, S30, S45

C. U.S. Federal, Heanth 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

OSHA Specifically Regulated Substances | Not applicable

D. 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

A. Source of data

Guideline for Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

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

Hazardous Substances Data Bank (HSDB)

Registry of Toxic Effects of Chemical Substances (RTECS)

National Institute of Technology and Evaluatio -NITE (Japan).

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.

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