Product Information Data Sheet

Lead-acid battery is not a target product for SDS(safety data sheet).
This sheet is intended to be issued in order to provide “reference information” to ensure the safe handling of the product.

1. Chemical Product and Company Identification

Product name : Lead-acid battery for motorcycles (Dry-charged Battery without electrolyte)

Information on company

Company name : THE FURUKAWA BATTERY CO. ,LTD.
Department in charge : Environmental promotion
Address : No.2-4-1 HOSHIKAWA, HODOGAYA-KU, YOKOHAMA, KANAGAWA, JAPAN
Phone number : 81-45-336-5055
Fax number : 81-45-333-2534

2. Hazards Identification

GHS Classification

Hazard class :Not applicable
Health Hazards :Not applicable
Environmental Hazards :Not applicable

GHS label elements

Symbol :None
Signal word :None
Hazard statements :None
Precautionary statements :None
Other risks :No information

3. Composition/Information on Ingredients

Chemical name or common name	Component part	Content rate (mass ratio) ※Reference	Chemical formula	CAS no.
Lead	Terminal, electrode plate	45-55	Pb	7439-92-1
Lead dioxide	Electrode plate	35-45	PbO_2	1309-60-0
Polypropylene	Battery container, lid	5-10	-	9003-07-0

4. First-aid Measures

If inhaled : (Lead, lead dioxide)
Remove person to fresh air, keep comfortable for breathing.
Get medical advice/attention.

If on skin : (Lead, lead dioxide)
Wash skin with plenty of water and soap.
If skin irritation occurs, get medical advice/attention.

If in eyes : (Lead, lead dioxide)
Open the eyelids with your fingers, rinse thoroughly with water for at least 15 minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical attention/advice.

If swallowed : (Lead, lead dioxide)
Rinse mouth.
Get medical advice/attention.

Most important symptoms/effects, acute and delayed : (Lead, lead dioxide)
Stomach cramps, lethargy, headache, nausea, vomiting, weakness, wheezing, pallor, hemoglobinuria, collapse.

Protection for first-aiders : Rescuers wear protective equipment such as rubber gloves and tight-fitting safety goggles.

5. Fire Fighting Measures

Suitable extinguishing media	: Extinguish the fire by extinguishers of dry chemical agent, foam fire extinguish agent, and non-flammable gas.
Unsuitable extinguishing media	: No information.
Specific risk/hazard	: In case of fire, there is a possibility that irritative, corrosive or toxic fumes or gases are generated. There is a possibility of explosion of the product by heat.
Specific fire fighting method	: Cut off the power in case of connection/energizing the product into the device, if can be coped with safely. Move the product from the fire area if it is not dangerous. After extinguishing the fire, continue to cool the container thoroughly with plenty of water. Immediately move the movable product to safe place when fire occurs in surrounding. If it is not movable, cool the product with water spray. Keep away the combustible materials to prevent spread fire around.
Protection for fire-fighters	: Extinguish fire from upwind. Wear appropriate protective clothes for chemical (self-contained breathing apparatus, protective glasses, etc.) to fire fighting.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency measures	: Wear appropriate protective equipment (gloves, protective glasses, protective clothing and the like), when processing the leakage. Do not touch or walk through the leakage. Do not breathe dust, mist and vapour.
Precautions for the environment	: Be careful to not discharge the product into the rivers, sewer, and soil.
Method for containment and clean-up	: If Sulfuric acid is leaked, stopping the flow with sand and earth, absorbing mat and the like, remove by absorbing with them. And then, neutralized with sodium bicarbonate or slaked lime, and wash off with plenty of water. Absorb by sprinkling misty water when the gas is generated. Collected material should be disposed in compliance with '13. Disposal Considerations'.
Prevention of secondary hazards	: Immediately remove all ignition sources in the vicinity. Prepare fire extinguishing equipment just in case it is ignited.

7. Handling and Storage

Handling

Technical measures	: Take measure described in '8: Exposure Controls and Personal Protective Equipment', and wear appropriate protective equipment.
Local exhaust/general ventilation	: Work in a well-ventilated place and provide local exhaust or general ventilation as necessary.
Cautions for Safety Handling	: Do not use fire near the product. Do not dismantle or modify the product. Do not do short-circuit between the terminals. Handling and charging of the product should be in well ventilated place. Prevent falling and overturning of container. Careful to not give a shock. Try to not damage the product. Do not eat, drink or smoke when using this product.

Storage

Safe Storage condition	: Provide a ventilation and lighting required for storing and handling hazardous materials in the storage location. : Do not store near the fire. Do not store in place where is exposed to high temperature, high humidity, rain, direct sunlight. Store in place where is no risk of fire, toxic gas, liquid droplets, generating or invasion of dust, and submerged.

8. Exposure Controls and Personal Protective Equipment

Controlled exposure level : Lead (electrode plate, terminal), lead dioxide(electrode plate)
Lead and its compounds(as lead)
TLV = 0.05 mg/m^3

ACGIH (2022) : Lead(electrode plate, terminal), lead dioxide(electrode plate)
LEAD AND INORGANIC COMPOUNDS, AS Pb
TLV-TWA = 0.05 mg/m^3

Engineering controls : Provide hand wash and eyes wash facilities and safety shower near the handling place as necessary.

Personal protective equipment

Respiratory protection : Wear respiratory protective equipment (air respirator, dust mask, gas mask (for acid gases)) as necessary.

Hand protection : Wear impermeable protective gloves (acid resistance).

Eye protection : Wear protective glasses, goggle type safety glasses and the like.

Skin and body protection : Wear protective clothing, protective apron and the like as necessary.

Hygiene measures : Do not eat, drink or smoke when handling.
Wash hands thoroughly after handling.
Protective equipment shall be inspected regularly according to the protective equipment checklist.

9. Physical and Chemical properties

Describes the information about the components below.

	Lead	Lead dioxide
Physical state	Solid	Solid
Color	Silver white	Brown
Odor	No information	No information
Melting point	327.4°C	888°C
Boiling point, initial boiling point and boiling range	1,749°C	1,480°C
Flammability(solid, gas)	Non flammable	Non flammable
Lower and upper explosion limit / flammability limit	Not applicable	Not applicable
Flash point	Non flammable	Non flammable
Auto-ignition temperature	Non flammable	Non flammable
Decomposition temperature	No information	290°C
pH	No information	No information
Kinematic viscosity	Not applicable	Not applicable
Solubility	Water: Insoluble.	Water: Insoluble.
Partition coefficient ;n-octanol/water(log value)	No information	No information
Vapour pressure	No information	No information
Density and/or relative density	11.35g/cm^3 (20°C)	9.53g/cm^3
Relative vapour density	Not applicable	Not applicable
Particle characteristics	No information	No information
Other Information	No information	No information

10. Stability and Reactivity

Stability : (lead)
When oxygen is present, it will be eroded by pure water and the weak organic acid. At normal temperature, it will be eroded by fluorine or chlorine.
(lead dioxide)
It is considered to be stable under normal handling and storage.

Hazardous reactivity : (lead)
It does not occur hazardous reaction under normal condition.

(lead dioxide)
React violently with combustible materials and organic matter (sulfuric acid, hydrogen peroxide, phosphoric acid), and it may cause risk of fire.

Conditions to avoid : Heating, contact with ignition sources (open flame, spark, etc.,)

Incompatible materials : (lead): Oxidizing agent.
(lead dioxide): Flammable materials, reducing materials.

Hazardous decomposition products : In case, there is a possibility that irritative or toxic gases or fumes (sulfur trioxide, carbon monoxide, mist sulfate, sulfur dioxide, hydrogen sulfide) are generated.

11. Toxicological Information

Indicate the information for each of components of lead-acid battery as below.

	Lead	Lead dioxide
Acute toxicity (Oral)	—	—
Acute toxicity (Dermal)	—	—
Acute toxicity (Inhalation: Gases)	—	—
Acute toxicity (Inhalation: Vapours)	—	—
Acute toxicity (Inhalation: Dust and Mists)	—	—
Skin corrosion/irritation	—	Category2
Serious eye damage/eye irritation	—	Category2A
Respiratory sensitization	—	—
Skin sensitization	—	—
Germ cell mutagenicity	Category2	—
Carcinogenicity	Category2	Category2
Reproductive toxicity	Category1A	Category1A
Specific target organ toxicity (single exposure)	—	Category1(blood system, kidney, nervous system)
Specific target organ toxicity (repeated exposure)	Category1(hematopoietic system, the kidney, central nervous systems, peripheral nervous system, cardiovascular system and immune system)	Category1(blood system, kidney, nervous system)
Aspiration hazard	—	—

※ “—” in the table means “not applicable” or “'Classification not possible' or `Not classified’ currently.

12. Ecological Information

Indicate the information for each of components of lead-acid battery as below.

	Lead	Lead dioxide
Hazardous to the aquatic environment (acute)	No data.	No data.
Hazardous to aquatic environment (chronic)	No data.	No data.
Persistence/degradability	No data.	No data.
Bioaccumulation	No data.	No data.
Mobility in soil	No information.	No information.
Hazardous to the ozone layer	Not contain ingredients listed in the Annex of the Montreal Protocol.	

13. Precautions for Disposal

Disposal considerations : In the disposal, follow “Waste Management and Public Cleansing Law” and the standards of the local government.
Entrust disposal to industrial waste disposal contractor who have obtained a license from local governor, otherwise if the local government is performing waste disposal, entrust them disposal.

14. Transport Information

International regulations(dangerous goods)

Inland transport	: Follow the regulation under ADR/RID.
Sea transport	: Follow the regulation under IMO.
Air transport	: Follow the regulation under ICAO/IATA.
UN number	: No Data.

15. Regulatory Information

TSCA (Toxic Substances Control Act)

Each component parts of battery is listed in the TSCA Registry as follows.

Components	Chemical Formula	TSCA Status
Lead	Pb	Listed
Lead Dioxide	PbO2	Listed

16. Other Information

Electrochemical reaction formula:

Positive		Electrolyte		Negative			Positive		Electrolyte		Negative
PbO_2	+	$2H_2SO_4$	+	Pb	Charge<---- ---->Discharge		$PbSO_4$	+	$2H_2O$	+	$PbSO_4$
Lead Dioxide		Sulfuric Acid		Lead			Lead sulfate		Water		Lead sulfate

Reference:

Globally Harmonized System of classification and labeling of chemicals, (6th ed., 2015), UN
JIS Z 7253:2019

1) NITE GHS classification data.
2) ECHA Home page (http://echa.europa.eu/information-on-chemicals)
3) NITE CHRIP (http://www.safe.nite.go.jp/japan/sougou/view/SystemTop_jp.faces)

Notice:

The contents described in this SDS are prepared based on the data and information currently available to us. However, it does not intend to be any guarantees in regard to content, physical and chemical properties, hazards, etc.
Please handle this product in the responsibility of the user after referring to this SDS.
In addition, the precautions are intended for normal handling. Please use under implementing safety measures that are suitable for application/usage if you want to special handling.