(GB/T 16483-2008 & GB/T 17519-2013)

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### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

: Maintenance Free Valve Regulated Lead Acid Battery Product Name

: Sealed Lead Acid Battery Synonyms

Product code : 2-FM-4 2-FM-4.5 2-FM-5 2-FM-6 3-FM-4 3-FM-4.5 3-FM-5

> 3-FM-7 3-FM-10 3-FM-12 6-FM-7 6-FM-10 6-FM-4 6-FM-4.5 6-FM-12 6-FM-14 6- FM-15 6-FM-20 6-FM-24 6-DZM-12 6-DZM-20, 6-FM-18, 6-GFM-24, 6-GFM-26, 6- GFM-28, 6-GFM-33, 6-GFM-38, 6-GFM-40, 6-GFM-45, 6-GFM-70, 6-GFM-100, 6-GFM-150, 6-GFM-200, 6-GFM-250

**Battery Type** : Valve regulated lead-acid battery

Recommended use of the chemical and restrictions on use

: Power supply Identified use

Details of the manufacturer of the safety data sheet

Hebei Tianyi Electric Appliance Co., Ltd.

Ningwei Road, Dongzhuang Industry Zone,

Julu County, Xingtai, Hebei, 054000,

China.

**Emergency telephone number** 

Tel: +86-319-4380111, or contact your local

emergency telephone number

**Product Information** Tel: +86-319-4380111

E-mail: kimi@tianyidg.com

## **SECTION 2. HAZARDS IDENTIFICATION**

### **Emergency Overview**

The following information is provided for the scenario that exposure occurred during battery production or container breakage or under extreme heat conditions such as fire, however, under normal conditions of battery use, internal ingredients/components will not present any physical, health and environmental hazard.

The following GHS hazardous classification are derived based on the internal ingredients under extreme exposure scenarios, such as breakage, leakage or being abused

GHS-Classification- China standards(GB30000-2013)

Corrosive to Metals : Category 1

Skin corrosion : Category 1

Serious eye damage : Category 1

Reproductive toxicity : Category 1A

Specific target organ : Category 1 (Central nervous system, Ki

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systemic toxicity - repeated exposure (Oral)

Specific target organ systemic toxicity - repeated exposure (Inhalation)

: Category 1 (Central nervous system, Kidney, Blood)

GHS-Labelling- China standards(GB30000-2013)

Hazard pictograms





Signal Word

: Danger

Hazard Statements

May be corrosive to metals.

Causes severe skin burns and eye damage.

Causes serious eye damage.

May damage fertility or the unborn child.

Causes damage to organs (Central nervous system, Kidney, Blood) through prolonged or repeated exposure if swallowed. Causes damage to organs (Central nervous system, Kidney, Blood) through prolonged or repeated exposure if inhaled.

**Precautionary Statements** 

: Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and

understood.

Keep only in original container.

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

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/ protective clothing/ eye protection/ face

protection. Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated

clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/

physician.

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.

IF exposed or concerned: Get medical advice/ attention.

Wash contaminated clothing before reuse Absorb spillage to prevent material damage.

Storage:

Store locked up.

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Store in corrosive resistant stainless steel container with a

resistant inner liner.

Disposal:

Dispose of contents/ container to an approved waste disposal

plant.

#### Physical and chemical hazards

Not classified based on available information.

#### Health hazards

Not classified based on available information.

#### **Environmental hazards**

Not classified based on available information.

### Other hazards which do not result in classification

No data available.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

: Manufactured article/solid

#### Hazardous components

Chemical Name	CAS-No.	Classification (GB30000-2013)	Concentration
Lead(Pb, PbO <sub>2</sub> , PbSO <sub>4</sub> )	7439-92-1	Repr. 1A; H360 STOT RE 1; H372 STOT RE 1; H372	70%
Sulfuric acid	7664-93-9	Met. Corr. 1; H290 Skin Corr. 1; H314 Eye Dam. 1; H318	20%
Fiberglass separator	65997-17-3	Not classified	5%
Container(ABS or PP)	25155-30-0	Not classified	5%

## **SECTION 4. FIRST AID MEASURES**

Under normal conditions of battery use, internal ingredients/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.

General advice

: Move out of dangerous area.

Consult a physician.

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Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

If inhaled Move to fresh air.

If breathed in, move person into fresh air.

If unconscious place in recovery position and seek medical

advice.

If symptoms persist, call a physician.

In case of skin contact

If on skin, rinse well with water.

Wash contaminated clothing before re-use.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty

of water and seek medical advice.

Continue rinsing eyes during transport to hospital.

Remove contact lenses. Protect unharmed eye. Do NOT induce vomiting.

Rinse mouth with water.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.

Most important symptoms and effects, both acute and

delayed

If swallowed

Causes serious eye damage.

May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated

exposure if swallowed.

Causes damage to organs through prolonged or repeated

exposure if inhaled. Causes severe burns.

Notes to physician

No hazards which require special first aid measures.

### SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media

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

Foam/Carbon dioxide (CO2)/Dry chemical

Unsuitable extinguishing

media

: High volume water jet.

Specific hazards during

firefighting

: Highly flammable hydrogen gas is generated during charging

and operation of batteries.

To avoid risk of fire or explosion, keep sparks or other sources

of ignition away from batteries.

Do not allow metallic materials to simultaneously contact

negative and positive terminals of cells and batteries. 1179:

Hazardous combustion

products

: Toxic fumes, corrosive vapors and sulfur oxides.

Specific extinguishing

methods

: Product is compatible with standard fire-fighting agents.

Further information

: Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

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for firefighters

Special protective equipment : In the event of fire, wear self-contained breathing apparatus.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: 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 bicarbonate, lime, etc.

Wear acid-resistant clothing, boots, gloves, and face shield. Do not allow discharge of unneutralized acid to sewer. Persons not wearing protective equipment should be excluded

from area of spill until clean-up has been completed.

Environmental precautions

: Prevent product from entering drains.

If the product contaminates rivers and lakes or drains inform

respective authorities.

Methods and materials for containment and cleaning up : If possible, carefully neutralize spilled electrolyte with soda

ash, sodium bicarbonate, lime, etc.

Other information : Comply with all applicable federal, state, and local regulations.

## **SECTION 7. HANDLING AND STORAGE**

Advice on safe handling

: Do not drop battery, puncture, or attempt to open battery

Avoid contact with the internal components of a battery. Do not subject product to open flame or fire and avoid situations that could cause arcing between terminals.

Do not smoke.

Keep away from combustible materials, organic chemicals,

reducing substances, metals, strong oxidizers.

Smoking, eating and drinking should be prohibited in the

application area.

For personal protection see section 8

Conditions for safe storage

Store batteries under roof in cool, dry, well-ventilated areas

separated from incompatible materials and from activities that

may create flames, spark, or heat.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Airborne exposures to hazardous substances are not expected when the cells or batteries are used for their intended purposes. Exposure standards are not applicable to the sealed articles.

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Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
LEAD	7439-92-1	TWA	0.05 mg/m3 (as Pb)	PY OEL
LEAD	7439-92-1	TWA	0.05 mg/m3 (as Pb)	ACGIH
LEAD	7439-92-1	REL	0.050 mg/m3 (as Pb)	NIOSH/GUID E
LEAD	7439-92-1	TWA	0.05 mg/m3	OSHASP
LEAD	7439-92-1	OSHA ACT	0.03 mg/m3	OSHASP
SULFURIC ACID	7664-93-9	TWA	0.2 mg/m3 Thoracic fraction.	ACGIH
SULFURIC ACID	7664-93-9	REL	1 mg/m3	NIOSH/GUID E
SULFURIC ACID	7664-93-9	PEL	1 mg/m3	OSHA_TRA NS
SULFURIC ACID	7664-93-9	TWA	1 mg/m3	TN OEL

: Store sealed lead acid batteries at ambient temperature. Engineering measures

Never recharge batteries in an unventilated, enclosed space.

Do not subject product to open flame or fire.

Avoid conditions that could cause arcing between terminals.

1179.

Personal protective equipment

: None required for normal handling of the finished product. Respiratory protection

Hand protection : None required for normal handling of the finished product.

: None required for normal handling of the finished product. Eye protection

: None required for normal handling of the finished product Skin and body protection

Wash hands before breaks and at the end of workda Hygiene measures

When using do not eat or drink.

When using do not smoke.

### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state

: Manufactured article

Colour

: Black

Odor

No odor

Sharp, penetrating, pungent odor(electrolyte)

Odor Threshold

: No data available

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pH : No data available

Melting point/freezing point : 327.4°C(lead)

-35 to -60°C (electrolyte)

Boiling point/boiling range : 1740°C (lead)

Approx. 108~114°C (electrolyte)

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : Non-flammable under normal use conditions

Upper explosion limit : Non-explosive

Lower explosion limit : Non-explosive

Vapour pressure : <0.3mmHg @25°C (electrolyte)

Relative vapour density : No data available

Relative density : No data available

Density : 11.35 g/cm³(lead)

1.2 to 1.3 g/cm³(electrolyte)

Water solubility : 0.15mg/l (lead)

Fully soluble(Electrolyte)

Solubility in other solvents : No data available

Partition coefficient: n-

Thermal decomposition

octanol/water

n- : No data available

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Oxidizing properties : Not an oxidizer



# SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

: No data available

Chemical stability : Stable under recommended storage conditions.

The sealed battery is considered stable.

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Possibility of hazardous

reactions

Incompatible materials

: Product will not undergo hazardous polymerization.

: Electrolyte: Contact with combustibles and organic materials may cause fire and explosion. 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. Acids/Bases, combustible material, organic materials, strong

oxidizing agents and strong reducing agents.

Hazardous decomposition products

Electrolyte: Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, hydrogen sulfide, corrosive vapors,

sulphur oxides, toxic fumes.

### SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

LEAD:

Acute oral toxicity

: LD L0 (Human): 155 mg/kg

Acute inhalation toxicity

: LC Lo (Human): 271 mg/m3

SULFURIC ACID:

Acute oral toxicity

: LD 50 (Rat): 2,140 mg/kg

Skin corrosion/irritation

Causes severe burns. SULFURIC ACID:

Result: Corrosive to skin

Serious eye damage/eye irritation

Causes serious eye damage.

SULFURIC ACID:

Result: Corrosive to eyes

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information

Respiratory sensitisation: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

May damage fertility or the unborn child.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Causes damage to organs (Central nervous system, Kidney, Blood) through prolonged or repeated exposure if swallowed.

LEAD:

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Exposure routes: Ingestion

Target Organs: Central nervous system, Kidney, Blood

Assessment: Causes damage to organs through prolonged or repeated exposure.

Exposure routes: Inhalation

Target Organs: Central nervous system, Kidney, Blood

Assessment: Causes damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified based on available information.

### **SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity** 

Acute aquatic toxicity

: Very toxic to aquatic life.

Chronic aquatic toxicity

: Very toxic to aquatic life with long lasting effects.

LEAD:

M-Factor (Acute aquatic

toxicity)

Toxicity to fish

: 10

: mortality LOEC - Oncorhynchus mykiss (rainbow trout) - 1,19

mg/l -96,0 h

LC50 - Micropterus dolomieui - 2,2 mg/l - 96,0 h

mortality NOEC - Salvelinus fontinalis - 1,7 mg/l - 10,0 d

Toxicity to daphnia and other

aquatic invertebrates

: mortality LOEC - Daphnia (water flea) - 0,17 mg/l - 24 h mortality NOEC - Daphnia (water flea) - 0,099 mg/l - 24 h

Toxicity to algae

: mortality EC50 - Skeletonema costatum - 7,94 mg/l - 10 d

SULFURIC ACID:

Toxicity to fish

: LC 50 (Lepomis macrochirus (Bluegill sunfish)) > 28 mg/

Exposure time: 96 h Method: Static Remarks: Mortality

Toxicity to daphnia and other

aquatic invertebrates

: EC 50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Method: Static

Toxicity to algae

: EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h

Persistence and degradability

No data available

Bioaccumulative potential

No data available

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Mobility in soil No data available

#### SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

General advice

: Dispose of in accordance with all applicable local, state and

federal regulations.

Lead-acid batteries are completely recyclable.

### **SECTION 14. TRANSPORT INFORMATION**

## International transport regulations

This battery is not subject to DG regulations and is not a dangerous goods.

AIR TRANSPORT - IATA/ICAO(2023-2024 Edition of the ICAO Technical Instruction for the Safe Transport of Dangerous Goods by Air (Technical Instructions) and the 65th Edition of the IATA Dangerous Goods Regulations (IATA DGR 65th Edition):

This valve regulated lead-acid battery is exempt from DG regulation and classified as "non-spillable battery", so this battery is not subject to DG regulations, since it meets the requirement of packing instructions 872 of special provision A67.

This valve regulated lead-acid battery is securely packaged, protected from short circuits and labeled "non-spillable", they are good for transportation on either passenger or cargo aircraft.

### MARINE TRANSPORT - IMDG(2022 Edition Amendment -IMDG Code(41-22)):

This valve regulated lead-acid battery is non-spillable battery and meet the requirements of special provision 238, so it is not subject to the provision of IMDG code.

# SECTION 15. REGULATORY INFORMATION

Regulations on the Control over Safety of Dangerous Chemicals (Decree No. 591 of the State Council of the People's Republic of China)

General rules for preparation of chemical safety data sheet (GB16483-2008)

Guidance on the compilation of safety data sheet for chemical products (GB/T 17519-2013)

Rules for classification and labelling of chemicals(GB30000-2013)

Classification and labels of dangerous chemical substances commonly used (GB13690-2009)

List of dangerous goods (GB12268-2012)

Classification and code of dangerous goods (GB6944-2012)

Occupational exposure limits for hazardous agents in the workplace - Part 1: Chemical hazardous agents(GBZ 2.1-2019)

(GB/T 16483-2008 & GB/T 17519-2013)

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## **SECTION 16. OTHER INFORMATION**

#### **Further information**

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#### Disclaimer:

This SDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered by us to be dependable and is accurate to the best of our knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations.

This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. We assumed no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.

\*\*\*End of Material Safety Data Sheet\*\*\*

