江西南鹰电源科技有限公司
FLYING POWER (JIANGXI) CO., LTD
Flying Industry Park, ShangYou, GanZhou, JiangXi China
TEL：86-592-5637791　FAX：86-592-5635637

Safety Data Sheet

Issue Date: 24th JAN. 2024

Item: SEALED RECHARGEABLE BATTERY – ABS Brand AGM valid for all 6 and 12 volt capacities.

SECTION 1.1： PRODUCT IDENTIFICATION

Chemical/Trade name (as used on label)	Lead-Acid battery, Non-spillable Maintenance Free battery / AGM Battery Valve Regulated Battery Sealed Lead-Acid Battery
Chemical Family/Classification	Electric Storage battery

FOR EMERGENCY

In Canada or USA call CANUTEC 888-226-8832, 1-888-CAN-UTEC

Rest of the world call collect 1-613-996-6666 or *666 on a mobile phone

SECTION 1.2: MANUFACTURER

Manufacturer's Name:	Address:
FLYING POWER (JIANGXI) CO., LTD	SHANG YOU COUNTY GANZHOU JIANGXI CHINA Tel: 86-797-7132828 Fax: 86-797-8522512
FLYING Battery Safety Department	Tel: 86-797-7132828

SECTION 2.1: HAZARD IDENTIFICATION

Signal Word: Danger

PHYSICAL HAZARDS　Explosive Chemical, Division 1.3

HEALTH HAZARDS	Acute toxicity, oral	Cat. 4
	Acute toxicity, inhalation	Cat. 4
	Skin corrosion/irritation	Cat. 1A
	Serious eye damage/eye irritation	Cat. 1
	Carcinogenicity	Cat.1A
	Reproductive toxicity	Cat. 1A

HEALTH HAZARDS, continued

Specific target organ toxicity, single exposure	Cat. 1 respiratory system
Specific target organ toxicity, single exposure	Cat. 3 respiratory tract irritation
Specific target organ toxicity, repeated exposure	Cat. 1 respiratory system

ENVIRONMENTAL HAZARDS

Hazards to the aquatic environment, acute hazard	Cat. 1
Hazards to the aquatic environment, long-term hazard	Cat. 1

HAZARD STATEMENT

Harmful if swallowed. Harmful if inhaled. Acid causes severe skin burns and eye damage.
May cause cancer if ingested or inhaled.
May damage fertility or the unborn child if ingested or inhaled.
Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure if ingested or inhaled.

Flammable gas, namely hydrogen, can be formed during charging.
Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENT
Prevention
Read and understand operating manual before use. Keep away from heat sources and other ignition sources, such as sparks or open flame. No smoking. Do not consume food or drink while using batteries. Wash hands thoroughly after handling. Use in well ventilated areas, never put a battery in an airtight enclosure.

Response
If swallowed: rinse mouth. Do NOT induce vomiting. If on skin or clothing, quickly remove clothing and rinse with water.
If inhaled: Seek fresh air and focus on breathing comfortably.
If in eyes: Rinse with water for several minutes, remove contact lenses.
Call a poison center or doctor if victim shows any discomfort.

Storage
Store in a well-ventilated location, out of direct sunlight.

Disposal
Deliver spent batteries to the local recycling centre. Do not open battery.

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SECTION 3: PHYSICAL/CHEMICAL CHARACTERISTIC DATA

Material	%by Wt.	CAS Number	Exposure Limits (Air Exposure Limits(ug/m3) OSHA	AGGIH	NIOSH
Lead	65	7439-92-1	50	150	100
Lead Oxide	28	1309-60-0	50	150	100
Electrolyte(Sulfuric Acid)	4	7664-93-9	1	1	1

Note: Material is solid at normal temperatures.

Composition comments: All concentrations are in percent by weight except for gases.
Gas concentrations are in percent by volume.

Electrolyte

Boiling Point:	230°F/110°C	Melting Point	Lead 327.4°C
Specific Gravity:	1.215-1.350	Vapor Density	Not determined
% Volatiles By Weight:	Not Applicable	Vapor Pressure	Not determined
Solubility in Water	100%(electrolyte)	Evaporation Rate	Not determined

Appearance and Odor:
Electrolyte is a clear liquid with an acidic order.

SECTION 4: FIRST AID MEASURES

Inhalation — Electrolyte: Remove to fresh air immediately, and provide oxygen if breathing is strained.
Lead compounds: Remove from exposure, gargle with water, wash nose and lips to remove residue.

Skin Contact — Electrolyte: Flush with steady flow of water for 15 minutes, completely removing all contaminated clothing and footwear. Seek medical advice if irritation develops.
Lead compounds: Wash with soap and water immediately.

Eye Contact — Electrolyte and Lead compounds: Flush with steady flow of water for 15 minutes, seek medical advice right away.

Ingestion — Electrolyte: Give large amounts of water, do NOT induce vomiting, seek medical advice immediately.
Lead compounds: Seek medical advice immediately.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: Not applicable
Flammable Limits: LEL = 4.1% (hydrogen gas in air): UEL = 74.2%
Extinguishing media: CO2, foam, dry chemical
Caution: Do NOT use water on live electrical circuits

SECTION 5 : Fire Fighting Measures, continued

Fire Fighting procedures: Self-contained breathing apparatus and full protective clothing must be worn if dealing with fire. Acid spatter is a risk so wear protective face shield, gloves and apron. If batteries were on charge, turn off power to charger on distribution panel of if safe, removing plug from outlet. Batteries connected in series may still pose a risk of electric shock.

Hazardous Combustion Products

During use, batteries generate and vent flammable hydrogen gas. Sources of ignition (cigarette, flame, spark) can cause the battery to explode causing dispersion of case fragments and corrosive liquid electrolyte.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Stop the flow of material, contain and absorb small amounts of liquid with sand, dirt or vermiculite. Do not use combustible materials. Neutralize the spilled electrolyte with soda ash, baking soda, lime or other such materials. Always obey local, provincial and federal requirements for disposal of spillage waste. Prevent runoff from entering drains, sewers, or surface water (rivers, lakes).

SECTION 7: HANDLING AND STORAGE

Handling: Single batteries pose no risk of electric shock. Human skin is non-conductive at 36 volts or less. Use caution when handling 4 or more batteries connected in series, i.e. 48 volts. Under normal usage the acid is immobilized in a fiberglass mat, AGM. In the event of the battery becoming damaged, avoid contact with the contents and keep away from ignition sources. Prevent conductive items from touching both battery terminals simultaneously, as a short circuit will occur. Risks include severe burns, fire, and battery failure.

Storage: Store in a cool dry well ventilated area, indoors, away from flame, spark or heat. Keep clear of metallic objects that may come in contact with the battery terminals and cause a dangerous short-circuit.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational exposure limits (mg/m^3)

Ingredient	ONTARIO OEL	QUEBEC PEV
Lead	0.05	0.05
Tin	2.00	2.00
Calcium	N/A	N/A
Sulfuric Acid	0.2	1.0

Engineering Controls: Keep batteries in well ventilated area. Provide easy access to water and eye wash station.

Hygiene Practices: Wash hands before eating, drinking or smoking after handling batteries.

Respiratory Protection: None required under normal conditions. If high concentrations of sulfuric acid mist are present, use NIOSH or MSHA approved respiratory protection.

SECTION 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, continued

Skin Protection: None required under normal conditions. If battery case is damaged, use rubber or plastic acid-resistant elbow-length gloves.

Eye Protection: None required under normal conditions. If battery case is damaged use goggles and/or face shield.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Electrolyte Approximately 113^{oC}
Specific Gravity: Electrolyte 1.250 – 1.320 pH<2
Vapour Pressure: Electrolyte 1mm Hg at 63^{oC}
Melting and Freezing Point: -69^{oC} and 160^{oC}
Vapour Density: Hydrogen = 0.069 (Air = 1)
Appearance and Odor: Battery is a hard plastic case, usually Polypropylene
Lead is grey solid with a metallic appearance
Electrolyte is a liquid, clear, colourless, with an acrid odor if hot during charging

SECTION 10 STABILITY AND REACTIVITY

Stability: Stable

Conditions to avoid: Do not charge at a current higher than recommended on the datasheet to avoid heat being generated within the battery. Cases begin to melt at 160^{oC}
Incompatibilities (Materials to avoid):
Lead/lead compounds: Potassium, carbides, sulfides, peroxides, phosphorus, sulfur.
Battery electrolyte (acid): Combustible materials, strong reducing agents, most metals, carbides, organic materials, chlorates, nitrates, and fulminates.
Hazardous Decomposition Products:
Lead compounds: Highly toxic arsine gas may be produced if Lead comes in contact with strong acid or base or nascent hydrogen. If the melting point is reached toxic metal fume, vapour or dust may result.
Battery electrolyte (acid): Hydrogen, sulfur dioxide, and sulfur trioxide.

Hazardous Polymerization: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity:
Inhalation LD_{50}: Electrolyte: LC_{50} rat: 375 mg/m3; LC_{50}: guinea pig: 510 mg/m^3
Elemental Lead: Acute Toxicity Point Estimate = 4500 ppmV (based on lead bullion)

Oral LD_{50}: Electrolyte: rat: 2140 mg/kg
Elemental lead: Acute Toxicity Estimate (ATE) = 500 mg/kg body weight (based on lead bullion)

SECTION 11 TOXICOLOGICAL INFORMATION, continued

Inhalation**:**
Electrolyte: Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation.
Lead compounds: Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.
Ingestion:
Electrolyte: May cause severe irritation of mouth, throat, esophagus, and stomach.
Lead compounds: Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. This may lead rapidly to systemic toxicity.
Skin Contact:
Electrolyte: Severe irritation, burns, and ulceration. Sulfuric acid is not readily absorbed through the skin and is not a dermal sensitizer.
Lead compounds: Not absorbed through the skin and not a dermal sensitizer.
Eye Contact:
Electrolyte: Severe irritation, burns, cornea damage, blindness.
Lead compounds: May cause eye irritation.
Synergistic Products:
Electrolyte: No known synergistic products
Lead compounds: Synergistic effects have been noted with heavy metals (arsenic, cadmium, mercury), N-nitroso-N-(hydroxyethyl)ethylamine, N-(4-fluoro-4-biphenyl)acetamide, 2-(nitrosoethylamine)ethanol, and benzo[a]pyrene.
Tin: Affects the metabolism of various essential minerals such as zinc, copper, and iron

CHRONIC EFFECTS

Inhalation/Ingestion: Prolonged exposure to Lead and its compounds may result in central nervous system damage, gastrointestinal issues, anemia.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Fate: Lead, if allowed into the environment will form compounds with anions present. These include hydroxides, sulfates, phosphates, and carbonates. Lead will eventually precipitate out of the water column. Lead contamination is difficult to remove from soils and sediments.
Environmental Toxicity: Aquatic Toxicity

Sulfuric acid: 24 hr LC_{50} freshwater fish :82mg/L
96 hr LOEC, freshwater fish: 22mg/L
Lead: 48 hr LC_{50} frogs: <1mg/L based on lead bullion

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SECTION 13 DISPOSAL INFORMATION

Spent Batteries: Lead-acid batteries are 100% recyclable. Return to distributor, manufacturer or to recycler, do not send to land-fill.

Damaged Batteries or Spill Cleanup Disposal: Place neutralized absorbed acid in acid resistant containers and dispose as hazardous waste. For large spills, contact local government agency for instruction of how to dispose of contaminated debris.

SECTION 14 TRANSPORTATION INFORMATION

GROUND

US-DOT/CAN-TDG/EU-ADR/APEC-ADR – No proper shipping name as these are not regulated as hazardous goods.

Label: "Non-spillable" or "Non-spillable Battery"

-The battery must be protected against short circuits and securely packaged

-Each battery and the outer packaging must be marked "Non-spillable" or "Non-spillable battery"

AIRCRAFT

ICAO-IATA - No proper shipping name as these are not regulated as hazardous goods.

Label: "Non-spillable" or "Non-spillable battery"

For air shipments reference IATA Dangerous Goods Regulations Special Provision A67 and Packing Instruction 872, provided the battery terminals are protected against short circuits.

VESSEL

IMO-IMDG: No proper shipping name as these are not regulated as hazardous goods.

Label: "Non-spillable" or "Non-spillable battery"

For shipment by water, reference IMDG Special Provision 238.1 & .2 and packing Instruction P003, provided the battery terminals are protected from short circuit.

SECTION 15 REGULATORY INFORMATION

CANADA Identification – All chemical substances in this product are listed on the CEPA/DSL/NDSL or are exempt from list requirements.

Notifications and Warnings – This product has been classified in accordance with the hazard criteria of the CPR Controlled Products Regulations and the SDS contains all the required information.

NPRI and Ontario Regulation 127/01 – This product contains the following chemicals:

Lead	CAS# 7439-92-1	42-70 % WT
Sulfuric acid	CAS # 7664-93-9	23-50% WT

Toxic Substances List – Lead

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SECTION 16 OTHER INFORMATION

Date issued May 29, 2020

Revision Date – N/A

Disclaimer

The information presented in the SDS Safety Data Sheet is believed to be accurate at time of publication.
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