YHI POWER
Battery Power You Can Rely On

Safety Data Sheet (SDS)

Product name: Neuton Power GC Series

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Australian Distributor:

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MATERIAL SAFETY DATA SHEET（MSDS）

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Chinese Name：密封蓄电池（注有酸液）

Product English Name：Batteries, wet, filled with acid, electric storage

MSDS Code：202009 Effective Date：JAN 1st,2025

Product Identification Number：420625/CB69

Recommended Use: starting and power supply for cars, power supply for small electrical appliances.

SECTION 2 - HAZARD IDENTIFICATION

Physical and chemical hazards: explosion or burning may result from contacting of sulfuric acid with calcium carbide, perchlorate, fulminate, nitrate, picrate, metal powder, etc. Sulfuric acid reacts with ordinary metals, releases hydrogen, and forms violently corrosive explosive mixture by contacting with air.

Lead and lead oxides: release toxic gases caused by thermal decomposition.

Health hazards:

Eyes: direct contact of sulfuric acid with eyes may cause eye irritation， corneal injury，burns and blindness;

Skin: direct contact of sulfuric acid with skin may cause skin irritation，burns and ulcer;

Ingestion of sulfuric acid may produce severe irritation of the mouth, throat and esophagus, and stomach;

Inhalation of sulfuric acid mist or fumes may produce severe respiratory irritation.

Lead and lead oxides: may cause eye irritation.

Environmental hazards: harm to the environment, may cause contamination of water, soil and air.

Emergency overview： hazardous products that may spill sulfuric acid when they are subjected to impact or during baking in heat source; Especially, the place should be ventilated when charging, and no fire source is allowed on site.

【GHS classification】: According to General rule for classification and hazard communication of chemicals（GB13690-2009）, the series of standards for chemical classification, warning labels and warning statements, this product belongs to: metal corrosive, category 1, acute toxicity (oral), category 5; acute toxicity (inhalation), category 2; skin corrosion/irritation, carcinogenicity, category 2; reproductive toxicity, category 2; hazard to the aquatic environment (acute), category 3.

According to the chemical classification and labe[illegible] standards, the product belongs to the category of corrosive substances.

【GHS Label】:

Symbols	
Cautions	Hazardous
Hazard statements	May cause irritation of severe burns ,irritating to skin and eyes；produce hydrogen during charging, maintain ventilation and prohibit fire sources on site, otherwise may create an explosion hazard. Harmful to aquatic life.

Precautionary statements：

Precautions：

----- Use in well-ventilated area, especially when charging, keep away from the fire;

----- Enclosed space operations, maintain ventilation, keep away from heat sources, open flames and high temperatures.

----- Take all precautions to avoid mixing with strong inorganic acids, alkaline solutions, strong oxidizing materials and conductive materials;

----- Handle with care, to prevent damage to packaging and containers.

Incident response： In case of damage or acid leakage, weak alkali can be used to neutralize the leaked acid, and then rinse with water to collect the leakage and avoid flushing into the sewer and drain.

-----Eye contact: Flush eyes with plenty of water, seek immediate medical attention;

----Skin contact: Flush affected area(s) with large amounts of water. Remove contaminated clothing;

----- This product is non-flammable. In case of fire, suitable extinguishing media can be selected according to the specific ignition material.

Safe storage: Avoid direct sunlight, store in a well-ventilated and dry place, and keep away from fire and heat sources. Avoid contact with strong inorganic acid, alkali solution, strong oxidizing material and conductive material.

Waste disposal: The product must be disposed of as hazardous waste. Do not burn, neutralize the liquid in the battery with lye-lime water, dilute with water and emit into the waste water system. Solid material is handed over to the manufacturer for disposal, recycled or disposed of in accordance with local regulations.

【Physical and chemical tests】 This certain hazardous product may leak out after damage, which is corrosive to human body and nature; In addition, when the product is charged, part of hydrogen is released from the vent hole of the product. If there are no good ventilation conditions, hydrogen will be easy to accumulate, thus may lead to a risk of explosion in case of sparks.

Health hazards： Sulfuric acid is corrosive to human skin and harmful to eyes.

Environment effect： After the product is broken, sulfuric acid is corrosive to the nature, and lead has certain contamination to the natural environment.

Emergency overview： The battery may explode when near an open flame. Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids, seek immediate medical attention; Skin contact: Flush affected area(s) with large

amounts of water. Remove contaminated clothing; If the irritation (redness, swelling, blisters) becomes severe, seek medical attention immediately.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance ☐ Mixture ☑

Chemical name：Battery（filled with acid）

Ingredients	Content	CAS NO.
Sulfuric acid	30%	7664-93-9
Lead	70%	7439-92-1

SECTION 4 - FIRST AID MEASURES

Skin contact: Flush affected area(s) with large amounts of water or soapy water. Remove contaminated clothing; If the irritation (redness, swelling, blisters) becomes severe, seek medical attention immediately.

Eye contact: Immediately flush eyes with plenty of water or saline, lifting upper and lower eyelids, seek immediate medical attention.

Inhalation: Remove person to fresh air immediately. If symptoms persist, give artificial respiration and seek medical attention.

Ingestion: If swallowed, rinse your mouth out thoroughly with water, drink milk, egg whites or vegetable oil. Do NOT induce vomiting, seek medical attention immediately.

The main symptoms and health effects： Exposure to sulfuric acid is easy to produce corrosive fume that can irritate skin, eyes and mucous membranes; exposure to lead can easily cause symptoms such as headaches, constipation, insomnia, metallic taste, anemia, etc.

Advice to rescuers: If an accident occurs or you feel unwell, seek medical attention immediately.

Doctor's tip： If the above-mentioned hazards occur, the rescuer should give first acid according to the above first aid measures and seek medical attention in time, and follow the doctor's advice.

Timely medical care and special treatment： No data available.

SECTION 5 - FIREFIGHTING MEASURES

Special hazards: sulfuric acid is corrosive. It reacts violently with inflammables and combustibles and even cause combustion. Explosion or burning may result from contacting of sulfuric acid with calcium carbide, perchlorate, nitrate, picrate, metal powder, etc. Lead and lead oxides release toxic gases caused by thermal decomposition.

Methods of extinguishing fires and extinguishing media： This product is non-flammable. In case of fire, suitable extinguishing media can be selected according to the specific ignition material.

Precautions and measures for fire-fighting:

·Firefighters must use full protective equipment and wear self-contained breathing apparatus, and attack fire in the direction of the wind.

·Open doors and windows to ensure adequate ventilation

· In case of partial battery fire, emergency personnel should wear acid resistant clothes, gloves, glasses and helmet s to prevent battery leaks and spills; At the same time, unfired batteries should be isolated and removed as soon as possible

·Extinguishers such as powder, foam and water can be used to extinguish fire.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency response procedures: In case of damage or acid leakage, weak alkali can be used to neutralize the leaked acid, and then rinse with water and avoid flushing into the sewer and drain. Evacuate personnel from site, ensure adequate ventilation, diffuse gas on site. Emergency personnel shall wear acid-resistant gloves, boots and protective glasses. Use plastic bags to seal batteries and contaminated water-absorbing materials, dispose of special waste according to local regulations, avoid contact with strong inorganic acids, alkaline solutions, strong oxidizing materials, and conductive materials, and equip with leakage emergency response tools and equipment.

Environmental protection measures： For a small amount of leaked acid, it can be absorbed by acid absorbent felt and sand and sent to the waste site. In case of a large amount of acid leakage, it can be neutralized with weak alkali, and then flushed and avoid being flushed into sewers and drains, and should be collected to the sewage disposal site.

Methods and materials for containment and cleaning up:

----- For a small amount of leaked acid, it can be absorbed by acid absorbent felt and sand, flushed with plenty of water, diluted with water and put into the wastewater system.

----- In case of a large amount of acid leakage, build a dike or dig a pit for containment. Transfer with pump to tank truck or special collector, recycle or transport to waste disposal site.

----- Lead and lead oxide: a small amount of leakage: collect in a dry covered container and move to a safe place.

Precautions to prevent secondary hazards:： set up alert areas to prevent unprotected personnel from entering the leakage area, prevent leakage from entering the water body, and avoid re-leakage during the elimination process.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling： Handle with care. Always keep batteries upright. Do not upside down.

Precautions for storage： Keep batteries out of the reach of children, keep them away from direct sunlight; do not store near open flames. They should be stored separately from strong inorganic acids, alkaline solutions, strong oxidizing materials and conductive materials, avoid mixing them. When batteries are stacked without packing boxes or other items isolated, do not allow conductive material to touch the battery terminals. The storage area should be equipped with emergency response equipment and suitable containment materials.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits: No data available

Biological limits: no data available

Monitoring method: PH test paper can be used to test whether there is acid on the battery surface and the ground.

Engineering control: During the battery charging process, maintain adequate ventilation. Prohibit fireworks on site and keep away from open flames.

Respiratory protection: Wear a mask

Eye protection: Wear protective glasses, especially when dealing with leaked sulfuric acid.

Body protection: wear acid-resistant overalls.

Hand protection: wear rubber acid-resistant gloves

Other protection: No smoking, eating or drinking in work area. Conduct pre-employment and regular medical examinations.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance and shape： It is a cuboid solid, and the outer layer is plastic seal for cover and container, filled with low-density acidic liquid.

PH value（concentration）： /	**Melting point/freezing point**（^{0}C）：plastic case 160~170
Density：0.89（outer seal），average density of sulfuric acid is 1.28 and of lead substances is 11.34	
Relative vapor density（air=1）： /	**Relative density（water=1）：** 2.0~2.5
Decomposition temperature（^{0}C）： PP case 350～380	**Self-ignition temperature（^{0}C）：** 420（PP case）

Flammability： no fire available

Solubility: The sulfuric acid inside the battery is soluble in water, the plastic case is insoluble in water, and the lead mixture is slightly soluble in water.

Main applications: automotive starting and lighting.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stability

Incompatible materials: the positive and negative posts cannot be short-circuited;

Conditions to avoid: high heat, open flame

Hazardous polymerization： not polymerized

Hazardous reaction： not applicable

Hazardous decomposition products: the case of PP has no hazardous decomposition products, and decomposition products of sulfuric acid are SO_2

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute toxicity： sulfuric acid：rat LD_{50} 2140 mg/kg；Guinea pig:LC_{50} 510mg / m^3(2h)

Chronic lead poisoning happens when lead builds up in the body.

Toxicity overview: This product is non-toxic when in good condition. If it is damaged by external force, the acid liquid flowing out of the inside will have a corrosive effect on the human body and nature. Lead-containing substances will enter the water and soil, which will precipitate in nature and accumulate in the animals and plants in contact.

Skin irritation or corrosion: The product will not cause damage to the skin when in good condition. If damaged by external forces, the acid leaking from inside will cause burns to the skin.

Eye irritation or corrosion: The product will not cause damage to the eyes when in good condition. If it is damaged by external force, the acid splashed from the inside will cause damage to the eyes.

Respiratory or skin allergies： no data available

Germ cell mutagenicity： no data available

Reproductive toxicity： no data available

Reproductive toxicity： no data available

Specific target organ system toxicity——one-time contact： no data available

Specific target organ system toxicity——repeated contact： no data available

Inhalation hazard: Normally, it will not be inhaled**.**

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: this product will not have adverse effects on the ecology when in good condition. If the product is damaged, the acid will leak out and enter the water, the pH value of the water will drop sharply, and it is fatal to aquatic organisms and microorganisms in sludge. Animals and plants adsorb and deposit lead substances, and the human body can be damaged by eating animals and plants containing lead.

Persistence and degradability: this product will not have adverse effects on the ecology when in good condition. No other data available.

Potential bioaccumulation: this product will not have adverse effects on the ecology when in good condition. No other data available.

Mobility in soil: This product will not enter nature when it is in good condition. No other data available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste disposal method——

Product: please do not break it, please send the waste to a unit recognized by the environmental protection department with the qualification of hazardous waste operation for recycling and disposal.

Nature of waste: hazardous waste

Waste packaging ： contamination-free packaging should be returned to the supplier for reuse. The contaminated packaging shall be sent with the product waste to the unit with the qualification of hazardous waste disposal for harmless

Disposal precautions: The waste of this product shall be [illegible] and transported as hazardous waste. It is forbidden to break the waste collection [illegible] keep the waste intact. It should be delivered to a unit with the qualific[illegible] dangerous goods transportation, and finally to a unit with the qualification of hazardous waste disposal for recycling and disposal.

SECTION 14 - TRANSPORT INFORMATION

UN number： 2794

UN transport name： Batteries, wet, filled with acid, electric storage

Technical/Chemical：SEALED MAINTENANCE FREE BATTERIES

English name： batteries, wet, leakage-free, electric storage

UN classification： class 8

Packing symbol: corrosive

Packing group:： ***

Packing method： paper or wooden box packing

Transportation method： road, rail and water transport.

Marine pollution（Y/N）： N

Transportation precautions: Do not roll or throw, the packing should be complete and the loading should be safe. Avoid exposure to sunlight and rain during transportation, and the

terminals of the batteries should not touch each other. Avoid mixing with strong inorganic acids, alkaline solutions, strong oxidizing materials and conductive materials.

SECTION 15 - REGULATORY INFORMATION

Regulations information: The following laws, regulations and standards have made corresponding provisions on the safe production, use, storage, transportation, loading and unloading, classification and marking of hazardous chemicals:

Regulations on the Safe Management of Hazardous Chemicals（Decree No. 591 of the State Council of China）

Rules for Classification and Labelling of Chemicals(GB 30000.2-2013～30000.29-2013)

General Specifications for Transport Packages of Dangerous Goods（GB12463-2009）

Packing Symbol of Dangerous Goods（GB190-2009）

General Rules for Preparation of Precautionary Labels for Chemicals（GB 15258-2009）

Guidance on the Compilation of Safety Data Sheet for Chemical Products（GB/T 17519-2013）

General Specifications for Transport Packages of Dangerous Goods（GB 12463-2009）

The Principle of Classification of Transport Packaging Groups of Dangerous Goods（GB/T 15098-2008）

Classification and Code of Dangerous Goods（GB 6944-2012）

List of Hazardous Chemicals（2018）：Battery (filled with acid) is not included

Directory of Highly Toxic Chemicals：not included

List of Dangerous Goods（GB12268-2012）：included, classified as Class 8; however, it is stated in Article 238 a and b that it is not classified as dangerous goods: that is, battery without sulfuric acid leakage during vibration test and differential pressure test can be transported as ordinary goods.

Technical Specification of Pollution Control for Treatment of Waste Lead-acid Battery （HJ519-2020): The waste lead-acid battery is classified as hazardous waste, and the technical specification for the collection, storage and utilization of waste lead-acid battery is regulated.

SECTION 16 - OTHER INFORMATION

Latest revision date: September 2020

Revision description: This MSDS shall be prepared in accordance with Safety Data Sheet for Chemical Products Content and Order of Sections (GB/T16483-2008); Since the GHS classification catalogue of chemicals has not been promulgated by the State, the GHS classification of chemicals in this MSDS is based on Rules for Classification and Labelling of Chemicals (GB 30000.2-2013 ~ 30000.29-2013), and will be adjusted accordingly after the national GHS classification catalogue of chemicals is promulgated.

References:

Emergency Response Pocket Manual for Highly Hazardous Chemicals（Second Edition）, China Petrochemical Press

Safety Data Sheet for Hazardous Chemicals（Second Edition）, Chemical Industry Press Zhou Guotai, Safety Data Sheet for Hazardous Chemicals, 2012

Li Zhengyu, Guidelines for Safety Data Sheet for Hazardous Chemicals, 2012

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