

MATERIAL SAFETY DATA SHEET

VALVE-REGULATED LEAD ACID BATTERIES
MAINTENANCE-FREE NON-SPILLABLE



Series No: 9990920160120-001
ACCORDING TO ISO 11014-2009 FORMAT
Version: 3.0
Date Issued: 01-Jan-2020

SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Industry Battery, TN, TNL, TNF, TNS, TNX, TNG, TNE, TNC Series

Name of Company:

ZHEJIANG CHANGXING TIANNENG POWER CO., LTD.

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SECTION 2- HAZARDA IDENTIFICATION

Lead Oxides: Under normal conditions of use, lead dust, vapors, and fumes are not generated. Hazardous exposure may occur when product is overheated, oxidized or otherwise processed or damaged to create dust, vapor or fumes.

Inhalation: Lead dust or fumes may cause irritation of upper respiratory tract or lungs.

Skin Contact: Lead Compounds are not readily absorbed through the skin.

Eye Contact: Lead Compounds may cause eye irritation.

SECTION 3- COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture	Percent	CAS No.
Lead/Lead oxides	80-95%	7439-92-1
ABS Container	5%	9003-56-9
Antimony	1-5%	7440-36-0
Calcium	<0.5%	7440-70-2

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SECTION 4 - FIRST AID MEASURES

Emergency and First Aid Procedures: Contact with internal components if battery is opened/ broken.

Inhalation: Remove to fresh air. Give oxygen or artificial respiration if needed. Get immediate medical attention.

Eye Contact: Flush with plenty of water for at least 15 minutes, hold eyelids open. Get immediate medical attention.

Skin Contact: Remove contaminated clothing and flush affected areas with plenty of water for at least 15 minutes and obtain medical attention if necessary.

Ingestion: Do not induce vomiting. Dilute by giving large quantities of water. If available give several glasses of milk. Do not give anything by mouth to an unconscious person. Give CPR if breathing has stopped. Get immediate medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Not Applicable

Extinguishing Media:

Use water, foam or dry powder, as appropriate to extinguish fire.

Fire Fighting Procedures:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full-face piece operated in the pressure demand or other positive pressure mode. Fight fire from the maximum distance. Evacuate area.

Specific Hazards:

When involved in a fire, the battery may decompose and produce irritating fumes containing metal oxides. And plastic may create toxic vapors, gases or fumes during hot operation.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Wear appropriate personal protective equipment as specified in Section 8.

Environmental Precautions:

This material may be non-hazardous in ordinary use and may be discarded in accordance with applicable governmental regulations and take order with the demands of the environmental protection section.

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Methods of Clean up:

Spill and leaks are unlikely because cells are contained in a sealed case. In the event of a battery rupture, prevent skin contact and collect all released material in a plastic lined metal container. Prevent spill from entering drinking water supplies or streams. Any product recovery or disposal must comply with local, state, federal, international or country specific regulations.

SECTION 7 - HANDLING AND STORAGE

Handling: It can be used normally under the temperature of -20~40 °C. All connections should be connected accurately to avoid the possibility of shorting connections. Do not let oil and water or other contaminations drop on the top of battery while working. Be sure to have logical discharge electricity and terminate voltage setting while working. Use only in the well-ventilated areas. Keep away from heat, sparks and open flames. Make available in the work area emergency shower and eyes wash. Avoid contact with skin and eyes. Use of full-length sleeves and pants; boots or work shoes are recommended for manufacturing operations.

Storage: Store in cool, dry, well-ventilated area and away from combustible materials, sources of ignition, excessive heat and direct sunlight. Do not store in sealed areas.

Warning: Not for use on children under 5 years old.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limit:

Lead, Lead Oxides (Chronic poison):

OSHA - PEL 0.05 mg/m³

ACGIH - TLV 0.05 mg/m³

NIOSH - REL <0.10 mg/m³

Respiratory Protection (Specify Type):

Provide general dilution ventilation to keep exposure to vapors as low as possible.

Ventilation:

Local Exhaust: Good general ventilation should be used. Use local exhaust ventilation as needed so that exposure limits are met.

Mechanical (General): Provide general ventilation in processing and storage areas so that exposure limits are met.

Engineering Controls: General room ventilation is sufficient during normal use and handling. Do not install these batteries in sealed, unventilated areas.

Personal Protective Equipment (In the handling the battery):

Hand Protection: Rubber or neoprene gloves.

Skin and Body Protection: Wear acid resistant boots, apron or clothing. Use decontamination facilities (eye bath, safety shower, washing facilities).

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Protective Gloves: Rubber or neoprene gloves.

Eye Protection: Safety glasses with side shields and avoid eye contact.

Other Protective Clothing or Equipment: Protective clothing is required where repeated or prolonged skin contact may occur.

Work/Hygienic Practices: Remove jewelry, rings, watches and any other metallic objects while working on batteries. All tools should insulate to avoid the possibility of shorting connections. DO NOT lay tools on top of battery. Be sure to electricity from tools and individual person by touching a grounded surface in the vicinity of the batteries, but are heavy. Serious injury can result from improper lifting or installation. DO NOT lift, carry, install or remove pulling the terminal posts for safety reasons and because terminal posts and post seals may be damaged. DO KEEP a fire extinguisher and emergency communications the work area.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

General Physical Form: The battery is solid.

Odor: The battery is odorless.

Solubility in Water: Lead, lead oxide and lead sulfate are insoluble in water.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Direct sunlight, overheat, sparks and other sources of ignition.

Incompatibility: Incompatible with strong oxidizing agents, potassium, sodium.

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Lead/Lead Oxides: Toxic by ingestion or inhalation. Chronic poison.

Potential Chronic Health Effects:

Be slightly hazardous in case of skin contact (permeate).

CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance may be toxic to blood, kidneys, central nervous system (CNS).

Repeated or prolonged exposure to the substance can produce target organs damage.

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SECTION 12 - ECOLOGICAL INFORMATION

Lead/Lead Oxides:

Eco-toxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short-term degradation products are not likely. However, long-term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Spent batteries must be treated as hazardous waste and disposed of according to local state, and federal regulations. A copy of this material safety data must be supplied to any scrap dealer or secondary smelter with battery. Put into dustbin, otherwise incineration, otherwise licensed landfill, or safe disposal as required by local, state, federal, international or country specific regulations.

Empty Container Warnings:

Empty containers may contain product residue, follow MSDS and label warnings even after they have been emptied.

SECTION 14 - TRANSPORT INFORMATION

GROUND

Our non-spillable lead acid batteries meet all of the following requirements found at 49 CFR 173.159(d)

- When offered for transport, the batteries are protected against short circuits and securely packaged as required by 49 CFR 173.159(d) (1);
- The batteries and outer packaging are marked with the words NONSPILLABLE or NONSPILLABLE BATTERY as required by 49 CFR 173.159(d) (2);
- The batteries comply with the vibration and pressure differential tests found in 49 CFR 173.159(d) (3).

AIRCRAFT-ICAO-IATA:

Our non-spillable lead acid batteries also are excepted from the international hazardous materials (also known as dangerous goods) regulations since they comply with the following requirements:

- According to the requirements of Packing Instruction 806 in IATA (International Air Transport Association) and ICAO (International Civil Aviation Organization), there should not be any electrolyte leakage after the vibration and pressure differential tests.
- And, Special Provision A67 states Non-spillable batteries are not subject to these Instructions (Packing Instruction 806) if at the temperature of 55 °C (131 °F), the electrolyte will not flow from a ruptured or cracked case and there is no free liquid flow and if, when packaged for transport the batteries are protected from short circuit and unintentional activation.

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VESSEL IMO-IMDG:

Our non-spillable batteries are excepted from the international hazardous materials (also known as dangerous goods) regulations since they conform to the requirements of IMDG Code Special Provision 238.1 and 238.2, that is the batteries have passed the vibration and pressure differential performance tests, and at a temperature of 55 C, the electrolyte will not flow from a ruptured or cracked case and there is no free liquid flow and if, when package for transport, the terminal are protected from short circuit.

Additional Information:

- Each battery and the outer packaging must be plainly and durably marked Nonspillable or Nonspillable Battery
- Transport requires proper packaging and paperwork, including the nature and quantity of goods, per applicable origin/destination/customs points as shipped.

SECTION 15 - REGULATORY INFORMATION

Lead/Lead Oxides:

EC# 231-100-4 CAS# 7439-92-1

NFPA Hazard Rating: Flammability = 0 Health = 1 Reactivity = 0

This chemical substance is not classified in the Annex I of Directive 67/548/EEC and not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93 on the evaluation and control of the risks of existing substances.).

SECTION 16 - OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. RJS Standard Testing & Certification Center shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. License granted to make unlimited paper copies for internal use only.