NIPPON PIECES SERVICES

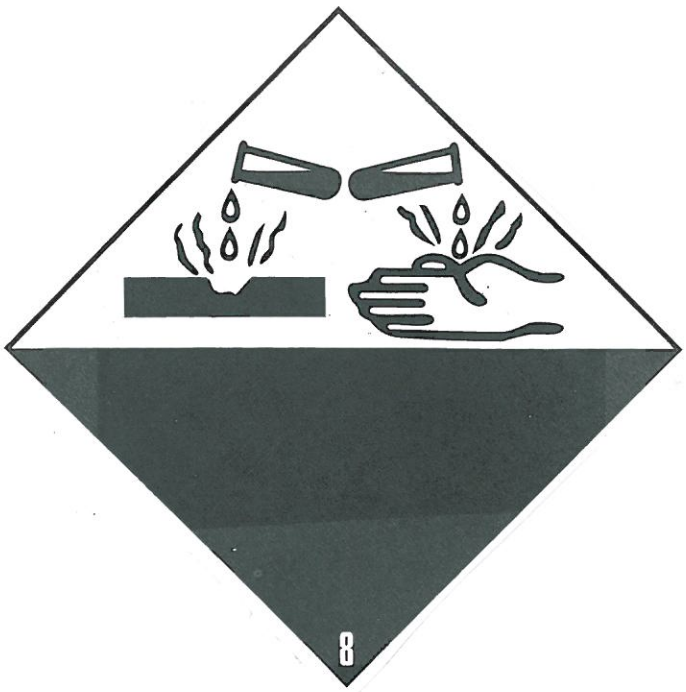
FICHE TECHNIQUE

ELECTROLYTE SPECIAL POUR BATTERIE DE DEMARRAGE

ACIDE SULFURIQUE Solutions à moins de 51 % (concentration entre 31 et 38 %)

Conditionnement : Cartons de 4 bouteilles en PVC de 1 000 ml.

CORROSIF
CLASSE : 8
ADR : 8,1 B
O.N.U. : 2794
O.N.U. : 2796
PACKING GROUP : III
COEFFICIENT MULTIPLICATEUR : 1



R35 : PROVOQUE DE GRAVES BRULURES

S1/2 : Conserver sous clé et hors de portée des enfants.

S23 : Ne pas respirer les gaz / vapeurs / aérosols.

S26 : En cas de contact avec les yeux, laver immédiatement et abondamment avec l'eau et consulter un spécialiste.

S30 : Ne jamais verser d'eau dans ce produit

S45 : En cas d'accident ou de malaise, consulter immédiatement un médecin (si possible lui montrer l'étiquette)

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Material Safety Data Sheet

PRODUCT NAME : Lead-Acid Battery
Version : Rev. 1
Revision date : 2012. 08. 24

1. IDENTIFICATION OF THE PREPARATION AND THE COMPANY

Product name : Lead-Acid Battery

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS	EINECS	Classification	Wight-%
Inorganic Compound of Lead	7439-92-1	231-100-4	Inorganic compounds	60.80
Electrolyte	7664-93-9	231-639-5	sulfuric acid-water solution	31.60
Case, Cover Material	9003-07-0	-	Polypropylene Hard Rubber	5.90
Plate separater	9002-88-4	-	Polyethylene	1.50

NOTE : Inorganic lead and electrolyte(water and sulfuric acid solution) are the primary components.
Polypropylene is the principle case material of automotive and commercial batteries

3. HAZARDS IDENTIFICATION

Electrolyte : Severe skin irritations,damage to cornea may cause keratitics, respiratory irritation.

Lead compounds : Symptoms of toxicity include headache, fatigue, abdominal pain, loss of appetite, muscular aches and weakness, sleep disturbances, and irritability.

4. FIRST AID MEASURES

Route of exposure

Electrolyte : Harmful by all routes of entry.
Lead compounds : Hazardous exposure can occur only when product is heated above the melting point, oxidized or otherwise processed or damaged to create dust, vapor, fume.

Inhalation : Electrolyte : Remove to fresh air immediately. If breathing is difficult, given oxygen.
Lead compounds : Remove from exposure, gargle, wash nose and lips, consult physician.

Ingestion : Electrolyte : Give large quantities of water; do not induce vomiting;consult physician
Lead compounds : Consult physician immediately.

Skin : Electrolyte : Flush with large amounts of water for at least 15minutes;remove contaminated clothing completely, including shoes
Lead compounds : Wash immediately with soap and water

Eyes : Electrolyte and Lead compounds : Flush with large amounts of water for at least 15minutes; consult physician

5. FIRE-FIGHTING MEASURES

Flash Point : NA
Flammable Limits : LEL = 4.1%(Hydrogen Gas in air); UEL = 74.2%
Extinguishing media : CO2, foam, dry chemical
Special fire fighting procedures : Recommended self - contained breathing apparatus if batteries are involved in fire due to toxic fumes from burning plastic and acid fume and vapors
Unusual fire and explosion hazards : While battery are being charged hydrogen gas is generated, avoid open flames, sparks or lighted matches, powerful oxidizer can ignite upon contact with combustibles.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : See also section 8
Environmental precautions : Send to secondary smelter for recycling
Methods for cleaning up : Flush away traces with water

7. HANDLING AND STORAGE

Handling : Handle carefully and avoid tipping, which may allow electrolyte leakage. Single batteries pose no risk of electrics shock but there may be increasing risk of electric shock from strings of connected batteries exceeding three 12 - volt units

Storage : store battery under roof in cool, dry, well–ventilated areas that are separated from incompatible materials and from activities that may create flames, spark, or heat. Keep away from metallic objests that could bridge the terminals on a battery and create a dangerous short - circuit.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls and Work Practices:

Store and handle in well-ventilated area. If mechanical ventilation is used, components must be acid - resistant glove batteries cautiously, do not tip to avoid spills. Make certain vent caps are on securely. If battery case damaged, avoid bodily contact with internal components. Wear protective clothing, eye and face protection, when filling, charging, or handling batteries.

Respiratory protection : None required under normal conditions.
Eye protection : Chemical goggles or face shield.
Protective gloves : Rubber or plastic acid-resistant gloves with elbow-length gauntlet.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Lead : Solid Electrolyte : Liquid	Specific Gravity(H2O=1)	1.230 to 1.350
Boiling Point	Lead : 1755℃ Electrolyte : 110~112℃	Vaper Pressure (mm Hg) 20℃	17 to 11 (for S.G range)
Melting Point	Lead : 327.4℃		
Solubility in water	Lead: Not soluble Electrolyte :100%	Vaper Density(AIR=1)	Greater than 1
Evaporation Rate (Butyl acetate=1)	Less Than 1		
Appearance and Odor	A clear liquid with a sharp penetrating, pungent odor battery is a manufactured article ; no apparent odor	%(Volatiles by Weight)	Not Applicable

10. STABILITY AND REACTIVITY

Stability : Stable ○
Unstable

Conditions to Avoid : Prolonged overcharge at high current; sources of ignition.

Incompatibility :(materials to avoid)

Electrolyte : Contact with combustibles and organic materials may cause fire and explosion. Also 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.

Lead compounds : Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate peroxides, nascent hydrogen, and reducing agents

Hazardous Decomposition Products:

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

Lead compounds : Temperatures above the melting point are likely to produce toxic metal fume, vapor or dust; contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas

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11. TOXICOLOGICAL INFORMATION

Inhalation :

Electrolyte : Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation.

Lead componuds : 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 componuds : Acute ingestion may cause stomachache , nausea, vomiting, diarrhea, and severe cramping. This may lead rapidly to systemic toxicity

Skin Contact :

Electrolyte : Severe irritation, burns, and stomachache.

Lead compounds : Not absorbed through the skin.

Eye Contact

Electrolyte : Severe irritation, burns, cornea damage, blindness

Lead compounds : May cause eye irritation

Effects of Overexposure - Chronic :

Electrolyte : Possible erosion of tooth enamel; inflammation of nose, throat, and bronchial tubes.

Lead compounds : Anemia; neuropathy, particularly of the motor nerves, with wrist drop;kidney damage; reproductive changes in both males and females.

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12. ECOLOGICAL INFORMATION

Air : No information available

Water and soil

Electrolyte : low density electrolyte flowed by water or the soil is very bad for a vegetable biology

Lead compounds : Comparatively has fluidity with a little for soil, but low density electrolyte flowed by water is very bad for a vegetable biology

Persistence and degradability : No information available

Mobility : No information available

Bioaccumulation : No information available

Ecotoxicity effects

Electrolyte(Sulfuric acid) : Bluegill (24.5ppm/24hr), Prawns(42.5ppm/48hr)

Lead compounds : Bluegill sunfish(400ppm/96hr), Rainbow trout(0.14ppm/96hr)

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