

M.S.D.S.

MATERIAL SAFETY DATA SHEET

-Lead-acid Batteries-

Conforming to Annex II of Regulation EEC/EU n° 453/2010

1. PRODUCT IDENTIFICATION AND MANUFACTURER

1.1 Identification of the substance or the preparation: Lead-acid battery

Batteries are "articles" according to REGULATION [EC] no. 1907/2006 EC, they are not "substances" or "preparation". There is therefore no obligation to provide a safety data sheet in accordance with the Regulation (EC) no. 1907/2006, article 31.

1.2 Relevant uses: Starter batteries for cars and vehicles
Industrial batteries for motive power and standby applications

1.3 Information about the supplier of the M.S.D.S.:
PROJECT ITALIA SRL
Via Soastene 12 Zona Industriale
36040 BRENDOLA [VICENZA] ITALY
Tel. +39 0444 401557 - Fax +39 0444 405334

Email address of the competent person responsible for the safety data sheet:

project@project-italia.com

1.4 Emergency telephone (Italy only): Milano - Poison Center, Ospedale Niguarda +39 02 66101029, 24 hours

2. SAFETY WARNINGS AND HAZARDS

Using correctly intact battery, do not exist special hazards to humans and the environment.

Danger of Explosion:

An explosive mixture of oxyhydrogen gas occurs when charging batteries. Therefore, do not smoke, do not use naked flames or fires, and do not cause sparks in the immediate vicinity of the battery. Avoid short-circuits in the battery terminals. Always use anti-static materials when cleaning. Do not store the battery in sealed containers; always store in a cool and well-ventilated area away from direct sunlight and heat sources.

Corrosive Hazard:





Lead-acid batteries contain sulphuric acid diluted in a water solution which is corrosive and harmful to skin and eyes. Specific gravity 1.22 ÷ 1.30 kg/l (30 – 40 %).

Health Hazard:

There are no hazards to health if the battery is used and handled in the correct way. The battery however contains lead compounds which are harmful if swallowed or inhaled.

3. COMPOSITION - INFORMATION ON COMPONENTS

Classification in accordance with the Regulation (EC) no. 1272/2008:

Component	% in weight	CAS no.	EC no.	GHS symbols	Classification in accordance with the Regulation (EC) no. 1272/2008
Lead metal and compounds	60 - 70	1309-60-0	215-174-5	  	(*) Acute Tox. 4 H302 – Harmful if swallowed H332 – Harmful if inhaled Repr. 1A H360Df – May damage fertility. May damage the unborn child. STOT Rep. Exp. 2 H373 – May cause damage to organs through prolonged or repeated exposure. Aquatic acute 1 H400 – Very toxic to aquatic life. Aquatic Chronic 1 H410 – Very toxic to aquatic life with long lasting effects.
Sulphuric acid solution 30 - 40% (Not applicable for dry charged cells)	20 - 30	7664-93-9	231-639-5		Skin Corr 1A H314 – Causes severe skin burns.
Thermoplastic Polymers	6 - 9	---	---	---	---

(*) classification referred to lead dioxide

4. FIRST AID MEASURES

First aid concerns above all exposure to the sulphuric acid solution (electrolyte) as all the other battery components are solid and are not considered hazardous if the battery is used and handled properly.

a) Inhalation:

Probability of exposure by inhalation is low, however in the event this should occur move the injured person away from the contaminated area to fresh air. If the injured person has respiratory problems, seek medical advice immediately.

b) Skin contact:

If the acid comes into contact with skin thoroughly wash the contaminated area with plenty of clear water. Remove all contaminated clothing. If skin irritation persists, seek medical advice immediately.

c) Eye contact:

If acid comes into contact with eyes thoroughly wash eyes with plenty of clear water. Keep eyes open when rinsing. Seek medical advice immediately.

d) Swallowing:

Rinse mouth with plenty of clear water and drink water immediately. Do not induce vomiting. Seek medical advice immediately.

Specific first aid facilities and equipment to be made available: bottles for eye washing or emergency eye washing fountains; showers.

5. FIRE-FIGHTING SAFETY MEASURES

Lead-acid batteries are not highly combustible, the only hazard of combustion are the thermoplastic polymers which are a 6-9% of battery weight. Always wear suitable breathing apparatus when extinguishing a fire.

a) Suitable fire extinguishers:

Dry powder, foam and CO₂.

b) Incorrect fire extinguishers:

Do not use water extinguishers as water causes an exothermic reaction (heat release) when it comes into contact with acid.

6. MEASURES IN CASE OF ACCIDENTAL RELEASE

a) Personal precautions:

In case of battery acid spillage always wear suitable PPE (personal protective equipment) to avoid the electrolyte coming into contact with skin and eyes such as rubber gloves, rubber boots protective anti-acid safety glasses and overalls.

b) Environmental protective measures:

Always keep electrolyte or lead dust away from sewers, water drains and water sources.

c) Methods for cleaning up:

Neutralise with sodium or calcium carbonate.

To contain spillage use sand, earth or other similar absorbing material. Do not use rags or sawdust.

Do not use water (although the sulphuric acid is diluted in a water solution when it comes into contact with water it may have an exothermic (heat release) reaction).

7. HANDLING AND STORAGE

Keep batteries away from heat sources, sparks or naked flames.

Do not store batteries in sealed containers; store in a cool and well-ventilated area away from direct sunlight and heat sources.

8. PERSONAL PROTECTION / EXPOSURE CONTROL

Except for safety shoes, all other PPE (personal protective equipment) are for protection against exposure to electrolyte as other battery components are solid and are not considered hazardous (unless lead compounds are voluntary or accidentally swallowed).

Recommended PPE (personal protective equipment):

anti-acid rubber gloves complying with EN374 standard (resistant to sulphuric acid); safety glasses complying with EN166 standard (mask or visor); anti-acid overalls; rubber boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state of the product: solid with a prismatic shape

Electrolyte: Sulphuric acid in a water solution. Specific gravity
1.22-1.30 kg/l.
Corrosive, Odourless, non-flammable.

10. STABILITY AND REACTIVITY

This product is normally stable and non-reactive.
The amount of hydrogen and oxygen gas fumes released into the surroundings can be neglected. However, always avoid naked flames or sparks in vicinity of the battery.

11. TOXICOLOGICAL INFORMATION

Not applicable.

12. ENVIRONMENTAL INFORMATION

The electrolyte solution reacts with water and organic substances causing damage to flora and fauna. Batteries also contain soluble lead compounds which can be toxic for the aquatic environment.

13. WASTE MANAGEMENT

Used lead-acid batteries are classified as "hazardous waste products" and by law it is obligatory to dispose of them through authorised waste management centres for recycling. It is strictly forbidden to dispose of used batteries in the environment. The EWC (European Wastes Catalogue) code for batteries is **16 06 01**.

For further information and details about your local waste management centre.

14. TRANSPORT REGULATION

Batteries are considered "NON-HAZARDOUS GOODS" if shipped dry charged (i.e. without acid filling).

a) FLOODED LEAD-ACID BATTERIES

By land (ADR/RID - road/railway):

Proper Shipping Name	BATTERIES, WET, FILLED WITH ACID electric storage
UN No.	UN2794
Hazard Class	8
Packing Group ADR	Not assigned
Label required	No. 8

If new and spent batteries meet the Special Provision 598, they are exempted from all ADR codes.

By sea (IMDG Code):

Proper Shipping Name	BATTERIES, WET, FILLED WITH ACID electric storage
IMDG UN No.	UN2794
IMDG Hazard Class	8
Packing Group	Not assigned
Packing instructions	P801
IMDG Emergency Medical Schedules - EmS	F-A, S-B
Label required	No. 8

By air (ICAO/IATA-DRG):

Proper Shipping Name	BATTERIES, WET, FILLED WITH ACID electric storage
ICAO/IATA UN No.	UN2794
ICAO/IATA Hazard Class	8
ICAO/IATA Packing Group	III
Label required	No. 8

b) VRLA BATTERIES, COMPLYING WITH SPECIAL PROVISION 238 OF ADR AND IMDG CODES

By land (ADR/RID, U.S. DOT - road/railway):

Proper Shipping Name	BATTERIES, WET, NON SPILLABLE electric storage
UN No.	UN2800
Hazard Class	8
Packing Group ADR	Not assigned
Packing instructions	P003 - P801a
Label required	No. 8

If new and spent batteries meet the Special Provision 598, they are exempted from all ADR codes. If non spillable batteries meet the Special Provision 238, they are exempted from all ADR codes.

By sea (IMDG Code):

Proper Shipping Name	BATTERIES, WET, NON SPILLABLE electric storage
IMDG UN No.	UN2800
IMDG Hazard Class	8
Packing Group	Not assigned
Packing instructions	P003
IMDG Emergency Medical Schedules - EmS	F-A, S-B
Label required	No. 8

If non spillable batteries meet the Special Provision 238, they are exempted from all IMDG codes provided that the batteries' terminals are protected against short circuits.

By air (ICAO/IATA-DRG):

Proper Shipping Name	BATTERIES, WET, NON SPILLABLE electric storage
ICAO/IATA UN No.	UN2800
ICAO/IATA Hazard Class	8
ICAO/IATA Packing Group	III
Label required	No. 8

If non spillable batteries meet the Special Provision A67, they are exempted from all ICAO/IATA-DRG codes provided that the batteries' terminals are protected against short circuits.

15. REGULATORY INFORMATION

Classification and labelling

Risk phrases (they are purely indicative as not applicable to this product, but only to a part which is the electrolyte):

H314 – Causes severe skin burns and eye

damage H302 – Harmful if swallowed

H332 – Harmful if inhaled

H360Df – May damage fertility. May damage the unborn child

H373 – May cause damage to organs through prolonged or repeated exposure H400 – Very toxic to aquatic life

H410 – Very toxic to aquatic life with long lasting effects.

Safety advice – General

P102 – Keep out of reach of children

Safety advice – Prevention

P210 – Keep away from heat, sparks, open flames, hot surfaces. No smoking.

Safety advice – Reaction

P305 + P351 + P338 – IF IN EYES: rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P303 + P361 + P353 – IF ON SKIN (or hair): remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

Where applicable, to make reference to normative following:

- D. Lgs. 152/2006 and following modifications;
- D. Lgs. 81/2008 and following modifications;
- Regulation (EC) no. 1907/2006 of European Parliament and Council of December 18, 2006;
- Regulation (EC) no. 1272/2008 of European Parliament and Council of December 16, 2008.

16. OTHER INFORMATION

The information contained herein is correct to the best of our knowledge at the time of issue.

Such information refers to the specific product described herein and is not to be considered as guarantee of product quality and performance.

The user is however responsible for determining product suitability, accuracy and completeness of the information provided herein for battery applications.

