SAFETY DATA SHEET

acc. to 91/155/EWG and 2001/58/EG

Date of Print: 18.10.13 *Revised on: 05.09.2011*

1. DESIGNATION OF SUBSTANCE / DISPENSATION AND COMPANY

Designation of Product / Name of Product: **BATTERY (wet, filled with acid)**

– Voltage 6 Volts / 12 Volts
– Electro-Chemical System Lead, sulphuric acid

(This product does not constitute a substance or a dispensation according to the Law on Chemicals.)

Application of Product: As starter battery for motor vehicles

Manufacturer / Supplier:
Banner GmbH
4020 Linz / AUSTRIA , Salzburger Straße 298 / Banner Str. 1
Tel. +43 / 732 / 3888 - 0
Fax +43 / 732 / 3888 - 21299

Information Field:
Department for Operational Safety
Tel. +43 / 732 / 3888 - 21209 – Fax +43 / 732 / 3888 - 21299
Department for Transport
Tel. +43 / 732 / 3888 - 21327 – Fax +43 / 732 / 3888 - 21398

Emergency Information:
Information Center for Poisoning
Tel. +43 / 1 / 4064343

2. COMPOSITION / DETAILS OF COMPONENTS

Designation of Substance	CAS-No.	Content • [m-%]	EINECS-No.	Code Letter	R-Rates
Lead	7439-92-1	approx. 50	231-100-4	T	20/22; 33; 61;62
Lead Oxide	1309-60-0	approx. 20	215-174-5	T; N	20/22; 33; 50/53; 61; 62
Sulphuric Acid 37 m-%	7644-93-9	approx. 20	231-639-5	C	35
Polypropylene	- -	approx. 10	- -	- -	- -

• referring to the total weight of the battery

3. POSSIBLE HAZARDS

– When intact starter batteries are handled in a proper manner, there are no hazards for people or for the environment.
– If the casing breaks, sulphuric acid may escape – danger of chemical burns.
– Fire hazard, when there is a short circuit of the poles.
– When the regulations for electrical recharging of the batteries are disregarded, there is a hazard through the formation of hydrogen (casing may burst and danger of explosion).
– Hazardous corrosion products may form if there is a fire (sulphuric acid).
– It is absolutely safe to compliment the electrolyte level with purified (distilled) water.

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4. FIRST AID MEASURES FOR CONTACT WITH ACID

q **GENERAL NOTES**
- Immediately remove clothing soiled with acid.

q **AFTER INHALING**
- Bring wounded person out of the danger zone to fresh air, consult a doctor.
- Keep the wounded person in a quiet resting position and prevent hypothermia.
- Allow a semi-seated position if shortness of breath occurs.
- Facilitate the inhaling of Dexamethason-21-isonicotinat (e.g. Auxiloson-can of aerosol) as soon as possible:
  4 strokes to start with, then two more strokes every five minutes until the first package is empty.
  In the following, one stroke every hour.
- For unconsciousness with continued breathing, find a secure sideways position.
- Conduct mouth-to-nose resusitation when breathing stops, if this is not possible conduct mouth-to-mouth resusitation.
  Keep respiratory tracts clear.
- In the event of cardiac arrest immediately conduct heart-lung resusitation.

q **AFTER SKIN CONTACT**
- Remove moistened clothing as quick as possible, thereby heeding self-protection.
- Rinse main areas affected for ten minutes with running water.
- Dab concentrated acid with dry cellulose or textile substance beforehand, as it reacts intensely with water under strong heat development.
- When possible, apply a flood-shower after large-scale moistening, or rinse otherwise with large quantities of water. Then rest the wounded person motionless and warm.
- Consult a doctor.

q **AFTER EYE CONTACT**
- Rinse the eye – protecting the unharmed one – for at least ten minutes with running water and with the eyelids wide open.
- Direct a mild jet of water at the eye in order to remove acid residue as quickly and completely as possible.
- Consult a doctor.

q **AFTER SWALLOWING**
- Rinse mouth, spit out the liquid.
- Immediately provide 1 or 2 glasses of water (milk or tea) for drinking.
- Do not try to neutralize with leaches / do not apply A-coal!
- Do not facilitate vomitting.
- Call the EMT to the site of the accident.
- Should the person affected spontaneously vomit, hold the person's head low to the stomach, in order to prevent vomit from entering the windpipe.

Absolutely ensure rapid medical care.

q **NOTES FOR THE DOCTOR**
- Inform the doctor about substance / product and conducted measures.
- Danger of stomach perforation.

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5. MEASURES FOR FIRE-FIGHTING

- All common fire-fighting substances are suitable.
- Preferably foam, carbon dioxide, and fire-fighting powder.
- Adapt fire-fighting measures to the surroundings.
- Beware of acids escaping from boxes which have caught fire.
- Possibility of hazardous corrosion products (sulphur trioxide) forming.

6. MEASURES FOR UNINTENTIONAL RELEASE

In order to remove the hazardous situation, the danger zone may only be accessed with appropriate protective measures.

q **LEAD / LEAD OXIDE**
- Absorb mechanically and avoid dust.
- Collect absorbed substance in container.
- Do not burn waste containing lead oxide.
- Absorb the spread substance with moisture immediately and do not carry it into other rooms.
- Prevent penetration of underground or bodies of water.

q **SULPHURIC ACID**
- Do not allow it to enter the sewage system or bodies of water.
- Dilute with water and then neutralize it with, e.g. sodium hydroxide, sodium carbonate, or calcium carbonate (*Caution!* Strong formation of CO_2 when applying carbonates)

Alternatives:
- Absorb with calcium or water-free soda and store in closed arrangement until disposal.
- Immediately cleanse moistened surfaces with large amounts of water.

q **POLYPROPYLENE**
none

7. HANDLING AND STORAGE

q **HANDLING**
- Do not throw or tilt batterie.
- Effectively prevent a short-circuit of the battery poles.
- Heed the loading regulations of the battery manufacturer when loading batteries.
- Beware of the guidelines when installing it into vehicles (polarity!)

q **STORAGE**
- No specific storage requirements for up-and-running batteries.

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8. LIMITATION OF EXPOSURE AND PERSONAL PROTECTIVE GEAR

q **LIMITATION OF EXPOSURE**
not applicable

q **PERSONAL PROTECTIVE GEAR FOR HANDLING BATTERY ACID**

– HAND PROTECTION
  § Use protective gloves.
  § The material of the gloves must be sufficiently resistant to the applied substance.
  § Check tightness before use.
  § Heed skin protection.
  § Pre-Rinse worn gloves before removing them; store them in a well-ventilated manner.
  § Prevent skin contact.

– EYE PROTECTION
  § Use wicker-goggles.

q **GENERAL PROTECTION AND MEASURES OF HYGENE**

– The common cautionary guidelines for handling chemicals are to be abided.
– Prevent skin / eye / clothing contact.
– Prevent breathing in vapors.
– Wash hands before breaks and at the end of work.
– Consult a doctor when experiencing health concerns.

9. PHYSICAL AND CHEMICAL PROPERTIES

Closed casing for code-substance with connecting poles

q **ADDITIONAL PHYSICAL AND CHEMICAL PROPERTIES**
not applicable

q **OTHER FEATURES**
Electricity storage (voltage, capacity)

10. STABILITY AND REACTIVITY

q **HEED THE ELECTRIC LOADING AND MOUNTING GUIDELINES OF THE BATTERY MANUFACTURER**

q **PLASTIC CASING**

– Melting point of the plastic casing: approx. 160°C
– Point of inflammability of the plastic casing: approx. 380°C

q **SULPHURIC ACID / BATTERY ACID**

– Corrosion of sulphuric acid above 338°C.
– Sulphuric acid corrosion products: sulphur trioxide.

q **LEAD / LEAD OXIDE**

– Corrosion of lead oxide above 300°C under seperation of oxygen.
– Corrosion products: oxygen.

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11. TOXICOLOGY DATA

No toxic agents will be released during proper use and when abiding the guidelines of the battery manufacturer.

q **SULPHURIC ACID / BATTERY ACID**

Acute Toxicity

- LD/LC50 values relevant to rating: Oral | LD50 | 2.140 mg.kg^{-1}(rat)
- Irritating and caustic effect on mucous membrane and skin.
- Danger of severe eye and lung damage.
- Danger of perforating oesophagus and stomach when swallowed.

q **LEAD / LEAD OXIDE**

Acute Toxicity

- Gastro-Intestinal malfunction.
- ZNS malfunction.
- Harm to blood.
- Signs of intoxication through inhaling or oral intake: sweet-metalic taste, flow of saliva, vomitting.

q **POLYPROPYLENE**

not applicable

Also refer to information under paragraph 2.

12. ECOLOGY DATA

No ecological agents will be released during proper use and when abiding the guidelines of the battery manufacturer.

q **LEAD / LEAD OXIDE (surrounded by sulphuric acid / battery acid)**

- Highly poisonous to water organisms; can have a harmful effect on bodies of water over a long period of time.
- WGK III: high hazard to water.

q **POLYPROPYLENE**

Not applicable

13. NOTES ON DISPOSAL

q **PRODUCT**

- Do not dispose product along with household refuse.
- Transfer to licensed disposal company.
- After use, the product must be forwarded to recycling.
- Numbers of the keys for disposal: ÖNORM S 2100 Key Number 35322
  LAGA-Code 35322
  EWC-Code 1606 01

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14. TRANSPORTATION GUIDELINES

Used batteries which are to be returned or transported to disposal, must be thoroughly inspected for damage and transport-aptitude, in order to ensure the integrity of each battery and its suitability for transportation.

q **LAND TRANSPORTATION ADR/RID (ACROSS BORDERS / DOMESTIC)**

- ADR/RID Grade: 8
- Classification code: C11
- Kemler Number: 80
- UN Number: 2794
- Hazard Labels: 8 + Environmentally Hazardous
- Packaging Group: none
- Packaging Instruction: P801 and P801A
- Designation of Goods: BATTERIES (ACCUMULATORS), WET, FILLED WITH ACID, electric collector
- Special Regulations: 295 and 598

q **SEA-VESSEL TRANSPORTATION IMDG**

- IMDG Grade: 8
- UN Number: 2794
- Packaging Group: none
- Packaging Instruction: P801
- Marine pollutant status: yes
- EMS Number: F-A, S-B
- MFAG: 700
- Proper Technical Name: BATTERIES, WET, FILLED WITH ACID, electric storage
- Special Regulations: 295

q **AIR TRANSPORTATION ICAO-TI AND IATA-DGR**

- ICAO/IATA Grade: 8
- UN/ID Number: 2794
- Packaging Group: none
- Packaging Instruction: 870
- Hazard Labels: Corrosive + Environmentally Hazardous
- Proper Technical Name: BATTERIES, WET, FILLED WITH ACID, electric storage

15. AUSTRIAN AND EU REGULATIONS (Marking according to EEC Guidelines)

q **HAZARD SYMBOLS AND HAZARD DESIGNATION**

C Caustic

E Danger of Explosion

T Poisonous

N Environmental Hazard

q **DETERMINING COMPONENTS OF HAZARDS FOR LABELLING**

- Lead / lead oxide and sulphuric acid 37 m-% / battery acid

q **R-RATES**

- R20/22 Health hazard when inhaled or swallowed.
- R33 Danger of cumulating effect.
- R35 Causes severe chemical burns.

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- R50/53 Highly poisonous to water organisms, can have damaging long-term effects on bodies of water.
- R61 May cause harm to children in the womb.
- R62 May be detrimental to the ability to reproduce.

q **S-RATES**

- S01/02 Sealed storage and keep out of the reach of children.
- S26 After eye contact, immediately rinse with water thoroughly and consult a doctor.
- S35 Waste and containers must be disposed of in a secure manner.
- S45 In case of an accident or of health concerns, immediately call upon a doctor (present this label if possible).
- S53 Avoid exposure – obtain specific instructions before use.
- S60 This product along with its container must be disposed of as hazardous waste.
- S61 Prevent release into the environment. Obtain specific instructions / consult the safety data sheet.

q **NATIONAL REGULATIONS**

- The classification according to the Austrian ChemG BGBl.No. I 53/1996 and to the ChemV BGBL. I 196/1994 are equal to the classification of the EU guidelines.

q **CLASSIFICATION ACCORDING TO VbF**

does not apply

Heed official regulations for storage and handling.

16. FURTHER DATA

q **RELEVANT R-RATES**

- R20/22 Health hazard when inhaled or swallowed.
- R33 Danger of cumulating effect.
- R35 Causes severe chemical burns.
- R50/53 Highly poisonous to water organisms, can have damaging long-term effects on bodies of water.
- R61 May cause harm to children in the womb.
- R62 May be detrimental to the ability to reproduce.

q **REGULATIONS FOR SAFE HANDLING OF BATTERIES**

- to be displayed by exhibitor.

q **DATA SHEET ISSUING**

- Department for Safety and Environmental Technology of the Banner GmbH company.

q **CONTACT PERSON / INFORMATION AGENT**

– Department for Operational Safety	Mr. Seyringer	Tel. +43 / 732 / 3888 - 21209
– Department for Transport	Mr. Klammer	Tel. +43 / 732 / 3888 - 21327

The classification equals the current EC guidelines, however, it is supplemented by remarks from professional literature and by company details.