

# Safety Data sheet on accumulator acid (diluted sulphuric acid)

(in compliance with EC Directive 91 / 155 / EU)

## 1. Identification / preparation of the substance and identification / undertaking of the company

Data on the product: diluted sulphuric acid (1,22 ... 1,29 kg / l)  
Trade name: accumulator acid  
Data on the manufacturer:

VARTA Autobatterie GmbH  
Am Leineufer 51  
D-30419 Hanover

Environmental director: Dr Lesch

Telephone: 0049/ -511-975-2690 Facsimile: 0049-511-975-2696  
Emergency: 0049/ 511-975-2680

E-Mail: Axel.lesch@jci.com

## 2. Composition / information on ingredients

Chemical characteristics:

Sulphuric acid: 30 ... 38,5 %, density 1,22 ... 1,29 kg/ l  
CAS-Number: 7664-93-9  
EINECS-Number: 231-639-5  
EU-Number: 016-020-00-8  
Formula Hill:  $H_2O_4S$   
Chemicla Formula:  $H_2SO_4$

## 3. Hazards identification

- Hazard symbol: C, corrosive
- Special indications of hazardness for human beings and environment:  
Diluted sulphuric acid may cause severe acid burns.
- R-phrases: R-35 causes severe burns

## 4. First-aid measures

- General instructions: Avoid any contact. Remove soiled, wetted clothing immediately. Inhalating or contact to skin with concentrated sulphuric acid is very harmful

- |                                    |   |
|------------------------------------|---|
| - after inhalation of acid mist *) | Inhale fresh air. If unconsciousness fix in stable position   |
| - after contact to skin            | Wash of with plenty of water immediately  |
| - after eye contact *)             | Rinse under running water for several minutes with the eyelid held wide open.                           |
| - after swallowing *)              | Drink a lot of water immediately , and swallow activated carbon. Avoid vomiting (risk of perforation!). |

**\*) Immediately call in doctor.**

(not medicated corrosivations can cause serious injuries)

## 5. Fire-fighting measures

Suitable extinguishing agents  
in case of surrounding fires:

CO<sub>2</sub> and dry powder extinguishing agent.

For reasons of safety  
improper extinguisher:

water and foam.

Acid reacts heavily with water and foam!

In event of fire it can cause damply and acidic gases and steams.  
(Sulfur oxid)

Defeat loose fog with spray. Water for firefighting can react sourly. Use acid-proof ancillary equipment only.

Collect contaminated water for firefighting, must not reach the canalisation.  
Possible reaction can accrue by contact with water and metal.

## 6. Accidental release measures

Cleaning / take-up procedures:

Use a bonding agent, such as sand, to absorb spilt acid; use lime / sodium carbonate for neutralisation, dispose with due regard to the official local regulations, do not permit penetration into sewage system, the earth or water bodies.

## 7. Handling and storage

Store tightly closed, frost-free under roof. Keep away from sources of ignition or heat.

Seek agreement with local water authorities in case of larger quantities.

No storage with alkali (lye). Keep separated from metal.

## 8. Exposure controls / personal protection

Possible exposure caused by sulphuric acid and acid mist during filling and charging:

Threshold value on workplace: Occupational exposure to sulphuric acid mist is regulated on a national basis  
1,0 mg/m<sup>3</sup> (EC)

Personal protective equipment Rubber or PVC gloves, acid-proof goggles, acid proof clothing, safety boots

## 9. Physical and chemical properties

### Appearance

form: liquid  
colour: colourless  
odour: odourless

### Safety-related data

solidification point: - 30 ... - 60  
boiling point approx. 108 ... 144 °C  
solubility in water complete  
flash point: not applicable  
ignition temperature: not applicable  
lower explosive limit: not applicable  
density (20 °C): (1.2 – 1.3) g/cm<sup>3</sup>  
vapour pressure (20 °C): 14,6 mbar  
bulk density: not applicable  
pH value: 0,3 (at 25 °C)  
dynamic viscosity: approx. 2.8 mPa . s (at 20 °C)

## **10. Stability and reactivity of the sulphuric acid (30 ... 38,5 %)**

- Corrosive, inflammable liquid
- Thermal decomposition at 338 °C
- Destroys organic materials, such as cardboard, wood, textiles.
- Reacts with metals producing hydrogen.
- Vigorous reactions with lyes and alkalis

## **11. Toxicological information**

- acts intensely corrosive on skin and mucous membranes, in low concentration already.
- the inhalation of mists may cause damage to the respiratory tract.
- Acute toxicity data: LD50 (oral, rat) 2140 mg/kg,  
LC50 (inhalation, rat) 510 mg/mc/2h

## **12. Ecological information**

- Water-polluting liquid within the meaning of the German Water Resources Act  
Water pollution class: 1  
(mildly water pollution).
- In order to avoid damage to the sewage system, the acid has to be neutralised by means of lime or sodium carbonate before disposal.
- Ecological damage is possible by chance of pH.
- The electrolyte solution reacts with water and organic substances, causing damage to flora and fauna.

## **13. Disposal considerations**

- The batteries have to be processed / disposed of with regard to the official local regulations.
- Don't dispose acid in the household waste. Neutralize spilled acid with lime or soda.
- Contaminated packages are to be drained optimally and neutralized with lime or soda. After cleaning efficiently with water it can be used again.

## 14. Transport regulations

Land Transport	<p>Land Transport (ADR/RID)</p> <p>UN N°: UN 2796          Classification ADR/RID: Class 8          Proper Shipping Name: SULPHURIC ACID max. 51% Acid or BATTERY LIQUID, SOUR</p> <p>Packing Group ADR: II          Label required: Corrosive</p>
Sea Transport	<p>Sea Transport (IMDG Code)</p> <p>UN N°: UN 2796          Classification: Class 8          Proper Shipping Name: SULPHURIC ACID          Packing Group: II          EmS: 8-06          MFAG 700</p> <p>Label required: Corrosive</p>
Air Transport	<p>Air Transport (IATA-DGR)</p> <p>UN N°: UN2796          Classification: Class 8          Proper Shipping Name: SULPHURIC ACID max. 51% Acid or BATTERY LIQUID, SOUR</p> <p>Packing Group: II          Label required: Corrosive</p>

## 15. Regulations

Marking according to German regulations  
 Danger symbol on Hazardous Materials

Identification requirement  
 C, corrosive

R-phrases 35  
 S-phrases 1 / 2

Causes severe burns.  
 Keep locked up and out  
 of reach of children.

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In case of contact with  
 eyes rinse immediately  
 with plenty of water and  
 seek medical advice.

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Never add water to this  
 production. \*)

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In case of accident or if  
 you feel unwell seek  
 medical advice  
 immediately (show the  
 label where possible).

\*) applies for Concentrated acid only, and not for refilling the Battery with water.

National regulations:

Water pollution class: 1 (list material)

Other regulations:

To be observed in case of storage:

- German Water Resources Act of 16.10.1976, as amended on 26.08.1992
- (Federal Law Gazette I, p. 1,564) Code of Practice M004
- „Irritating / corrosive materials“ ZH 1/105

## 16. Miscellaneous data

The information given above is provided in good faith based on existing knowledge and does not constitute an assurance of safety under all conditions. It is the users responsibility to observe all laws and regulations applicable for storage, use, maintenance or disposal of the product. If there are any queries, the supplier should be consulted.