MATERIAL SAFETY DATA SHEET

According EC 91/155

1. Identification of the substance/preparation

Supplier : Vetus N.V.
Fokkerstraat 571
3125 BD Schiedam
The Netherlands

Trade name : LEAD SULPHURIC ACID BATTERY
Chemical name : SULPHURIC ACID. solution. ≥ 15.0 - ≤51.0%
EC-number : 231-639-5
Formula : H_2S0_4
Use : Miscellaneous
Publication date : 2002-09-02

2. Composition/information on ingredients

Component	CAS-number	EC-number	Percentage	EC-label
SULPHURIC ACID	7664-93-9	231-639-5	≥ 15.0 - ≤ 51.0 %	C:R: 35
WATER	7732-18-5	231-791-2	≥ 49.0 - ≤ 85.0 %	

3. Hazard identification

R-phrases • Causes severe burns.

4. First-aid measures

Skin : DO NOT touch contaminated clothes with bare hands. Remove contaminated clothes immediately . Remove residue of the substance from the skin (f.i. rinse with much water). In case of serious burnings bring victim as soon as possible to the hospital, in other case call for a doctor.

Ingestion : If victim is conscious, let him drink 1 or 2 glasses of water. Do NOT induce vomiting. Bring victim as soon as possible to the hospital.

Inhalation : Bring victim into the fresh air as soon possible and let rest. In case of severe exposure call for a doctor. In case of breathing problems. Loose squeezing clothes and if victim is conscious bring victim in high sitting position. In case of stagnation of breathing give IMMEDIATEL Y oxygen and transport to hospital as soon as possible.

Eyes : Rinse for a long time with a lot of water. In case- of eye-sight disturbances bring victim immediately into the hospital, in other cases call for a doctor.

Remarks first aid : none

5. Fire fighting measures

Fire-extinguisher : determined by surrounding
Hazardous decomposition products in fire : sulphur oxides

6. Accidental release measures

Spillage procedure : Absorb the liquid in appropriate absorbent (o.g. Powersorb. dry sand, diatomite, vermiculite etc.), shovel the mixture into plastic bags and remove to the central depot for hazardous waste.

Emergency procedure : not applicable

7. Handling and storage

Local exhausting : Apply local exhaust.
Storage conditions : Protect product against moisture.
Store product in a well ventilated area and keep packing closed. Do not store in direct sunlight or close to other heat sources.
Storage temperature : ≥ 20 °C - ≤25 °C

8. Exposure controls/personal protection

Exposure limits	TLV :	1 mg/m^3	SULPHURIC ACID
		applicable to: Netherlands (20°C; 1013 mbar)	
	TLV :	1 mg/m^3	SULPHURIC ACID
	STEL :	3 mg/m^3	SULPHURIC ACID
		applicable to: Belgium (20 °C; 1013 mbar)	
	TLV :	1 mg/m^3	SULPHURIC ACID
	STEL :	3 mg/m^3	SU LPHURIC ACID
		applicable to: United States (25 °C; 1013 mbar)	
	TLV :	1 mg/m^3	SULPHURIC ACID (as inhalable dust)
		applicable to: Germany (20°C; 1013 mbar)	
	not determined		WATER
	C=Ceiling; S=Skin		

Remarks exposure limits : none
Odour threshold (20°C; 1013 mbar) : not traceable
Advised personal protection : skin : butyl rubber gloves
polyvinyl chloride gloves
eyes : acid goggles
face mask
inhalation : none (when sufficient exhausting)
Gasmask filter type E (when insufficient exhausting)

9. Physical and chemical properties

Physical state : liquid
Colour : colourless
Odour : odourless
Vapour rate/range : not traceable
Boiling point/range : ≥ 100 °C - ≤ 125 °C (1013 mbar)
Melting point/range : ≤ -5 °C
Flash point/range : not applicable
Explosive limits : not applicable
Dust explosions possible in air : not applicable
Relative density : ≥ 1.10000 - ≤ 1.40000 (water=1) (20°C)
Vapour pressure : ≥ 0.2 - ≤ 3.4 kPa (20 °C)
Solubility in water : complete
Solubility in fat : not traceable
pH : <1
Viscosity : ≥ 1 - ≤ 3.7 mPa.s (20°C)
Auto ignition temperature : not applicable
Decomposition temperature : > 340°C
Electrostatic chargement : no

10. Stability and reactivity

Conditions to avoid : none
Reactions with water : no
Hazardous reactions with : alkaline solutions, organic compounds. metals. inorganic cyanides, reducing substances, inflammable substances
Hazardous decomposition products at heating : none

11. Toxicological information

Symptoms

Skin	local	: The substance is corrosive: redness, pain, severe bums.
	general	: No absorption worth mentioning under normal working conditions.
Ingestion	local	: The substance is corrosive: sore throat, abdominal pain, vomiting, diarrhoea. collapse. May cause asphyxiation due to cramp or swelling of the larynx.
	general	: The substance may be absorbed after ingestion. The local effects dominate.
Inhalation	local	: The vapour is corrosive: sore throat. coughing, dyspnoea. Chance of pulmonary oedema: coughing and tightness of the chest, possibly after several hours. Serious cases may cause fatal end.
	general	: The local effects dominate.

Eyes	local	: The substance is corrosive: redness, pain, poor vision, chance of lasting damage.
Remarks symptoms		: None
Toxicity		: LD-50: 2.14 g/kg (ORL-RAT), SULPHURIC ACID LC-50: 0.51000 mg/l/2H (IHL-RAT), SULPHURIC ACID

12. Ecotoxicological information

Biological oxygen demand (5) : not traceable
Chemical oxygen demand : **not traceable**
Biological/chemical oxygen demand ratio : not traceable
Biochemical factor : not traceable
Log Po/w : not traceable
Ecotoxicity : LC-50: ≥ 10 - ≤ 100 mg/L/96H (Fish), (Total product)
EC-50: ≥ 70 - ≤ 80 mg/L/48H (Daphnia). (Total product)
Remarks on ecotoxicity : none

13. Disposal considerations

Remainder material or unclean empty packaging have to be incinerated in a proper installation or dumped on an approved landfill, in accordance with local and national legislation. Consider also return delivery to supplier.

14. Transport information

ADR/RID	**UN-number**	: 2796 SULPHURIC ACID
	Class	: 8
	Packing group	: II
	Transport emergency card	: 80S2796
IMO	**Class UN-number**	: 2796 SULPHURIC ACID
	Class	: 8
	Packing group	: II
	Marine pollutant	: no
IATA/ICAO	**UN-number**	: 2796 SULPHURIC ACID
	Class	: 8
	Packing group	: II

15. Regulatory information

Hazard symbol	C	(CORROSIVE)
R-phrases	35	Causes severe burns.
S-phrases	26	In case of contact with the eyes, rinse immediately. With plenty of water and seek medical advice.
	30	Never add water to this product.
	45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Hazardous component(s) : SULPHURIC ACID
Remarks on EC-labeling : none

16. Other information

Remarks on MSDS : none
Inner company references : none

Overview relevant R-sentences from all components in section 2 :

35	Causes severe burns.

Date last update : 2003-03-05