



**SAFETY DATA SHEET- (Sulphuric Acid) ABM-QCX-SDS-(SA)-001**

According to regulation (EC) No 1907/2006 Annex II

Date of Issue

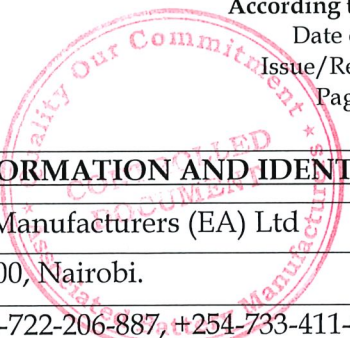
20<sup>th</sup> November 2021

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**1 -COMPANY INFORMATION AND IDENTIFICATION**

Associated Battery Manufacturers (EA) Ltd	Contact: Technical Manager
P.O. Box 48917 -00100, Nairobi.	E-mail: batman@abm.co.ke
Tel: 531218-26, +254-722-206-887, +254-733-411-138	Website: www.abmeastafrica.com

**a. Product identifier**

Chemical Name: Sulphuric Acid  
 Empirical Formula: H<sub>2</sub>SO<sub>4</sub>  
 Average Molecular Weight : 98.08 g/mol

**b. Relevant identified uses of the substance or mixture and uses advised against**

Identified uses: Battery electrolyte  
 Uses advised against: Any other use prohibited other than the intended usage (battery electrolyte).

**c. Emergency telephone number**

Tel: 531218-26  
 Mobile: +254-722-206-887 or +254-733-411-138

**2 - HAZARD IDENTIFICATION**

**a. Classification of the substance or mixture (Classification done according to regulation (EC) No 1272/2008)**

Corrosive to metal (category 1), H290.  
 For the full text of the H-statements mentioned in this section, see section 16.  
 Not a hazardous substance or mixture according to EC-directives 67/548/EC or 1999/45/EC.

**b. Classification of the substance or mixture (Classification done according to regulation (EC) No 1272/2008)**

Labelling according to regulation (EC) No 1272/2008



Pictogram:  
 Signal word: Warning  
 Hazard statement(s): May be corrosive to metals (HS90)  
 Precautionary statement(s): None  
 Supplemental Hazard elements: None  
 R-phases: None  
 S-phase(s): Safety data sheet available for user on request.

**c. Hazard not otherwise classified (HNOC)**

None identified.

<b>Prepared By:</b> ..... Process Co-ordinator	<b>Reviewed By:</b> ..... System Co-ordinator	<b>Approved By:</b> ..... Technical Manager
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**3 - HANDLING AND STORAGE****a. Handling**

Main Hazard	Poisonous, corrosive
Flammability	Non-flammable
Chemical Hazard	Corrosive
Biological Hazard	Toxic to aquatic life
Reproductive Hazard	Unknown

**b. Storage**

<b>Note 1</b>	Store in a cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be re-sealed and kept.
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**4 - HEALTH EFFECT**

Application area	Exposure routes	Health effects	Value
Workers	Inhalation	Acute local effects	
Workers	Inhalation	Long term local effects	
Eyes		Corrosive; avoid contact	
Ears		Corrosive; avoid contact	

**Predicted no effect concentration**

Compartment	Value
Marine water	0.00025 mg/l
Fresh water	0.0025 mg/l
Marine sediments	0.002 mg/kg
Fresh water sediments	0.002 mg/kg
On-site sewage treatment plant	8.8 mg/l

**5 - COMPOSITION/ INFORMATION ON INGREDIENTS****a. Mixtures**

Formula: H<sub>2</sub>SO<sub>4</sub>  
Molecular Weight : 98.08 g/mol

**b. Hazard identification according to Regulation (EC) No 1272/2008**

Component	Classification	Concentration
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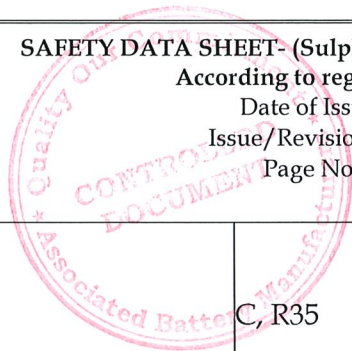
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Sulphuric Acid CAS No: 7664-93-9 EC-No: 231-639-5 Index No: 016-020-00-8 Registration No: 01-2119458838-20-xxxx	C, R35	30%
Ingestion	Swallowing can cause.	
Inhalation	Produces damaging effects on the mucus membrane and upper respiratory track.	
Carcinogenicity	Strong acid has been classified as human carcinogen. This does not include liquid forms of sulphuric acid.	

**6 - FIRST AID MEASURES**

Eyes	In case of splashes in the eye, wash hold the eyelids open and immediately rinse with cool running water for at least 15 minutes. Seek medical attention after rinsing.
Skin	In case of splashes on the skin, wash thoroughly with soap and water. Seek medical attention.
Ingestion	Do not induce vomiting, drink plenty of water. Do not give anything by mouth to unconscious.
Inhalation	Remove to fresh air, if not breathing, give artificial respiratory; if breathing is difficult give oxygen. Call the doctor immediately.
Note 2	<b>The most known symptoms and effects have been described in the above sections.</b>

**7 - FIREFIGHTING MEASURES**

Extinguisher	Use dry chemical foam or CO <sub>2</sub> water spray or alcohol-resistant form.
Advise for firefighters	Avoid breathing fire vapours. Move container from fire area if it can be done without risk. Water spray should be used to cool containers and reduce vapours. Keep run-off water out of sewers and water sources. Be aware of danger for fire to re-start. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Hazard	Contact with metal will cause formation of explosives/ flammable hydrogen gas. Keep sparks away during charging since the process leads to generation of hydrogen; a flammable and explosive gas. Other special hazards arising from the substance or mixture include sulphur dioxides.
Protective clothing	Use required PPEs where acid vapours and mist are available. See section 8.



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Environmental precaution	In case of accidental spillage (small spill) neutralize with magadi. Collect the resultant into sealable bags and dispose off as hazardous waste. In case of large spillage, contain and collect as much as possible and neutralize with magadi, collect the resultant into sealable bags and dispose off as hazardous waste.
Handling and storage	Store in cool and dry place and on acid resistant floors. Ensure there is an eyewash and safety shower at the storage areas. When diluting acid always add acid to water and not the reverse.

**8 - EXPOSURE CONTROLS/ PERSONAL PROTECTION**

Occupational Exposure Limit	TWA OEL-RL 1mg/m <sup>3</sup>
Engineering control	Local and general exhaust is recommended for sulphuric acid mist.
Respiratory protection	Non-required under normal handling conditions. In case of spillage in a confined space, an approved respirator should be used.
Protective gear	Goggles, acid resistant apron, gloves, safety shoes and face shields required.

**9 - PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	Clear when viewed through a depth of 300mm.
Odour	Odourless
pH	1
Boiling point	109°C
Melting point	-64°C
Flashpoint	N/A
Flammability	Not flammable
Auto-flammability	N/A
Explosive property	Hydrogen gas which is explosive is generated when in contact with metals and during charging of the battery.
Oxidizing properties	N/A
Vapor properties	Not available
Solubility to water	100%
Solubility coefficient	N/A
Solubility solvent	N/A
Physical State	Viscous liquid
Color	Colourless



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Solubility in Water	Soluble in all proportions
Solubility in 95% Ethanol	Decomposes
Density	1.245g/cm <sup>3</sup>
Boiling range	Decomposes at 340°C

**10 - STABILITY AND REACTIVITY**

Conditions to avoid	Heat, moisture and incompatibles. Prevent fires and any other ignition materials around the lead acid battery. The electrolyte reacts with water to produce heat.
Incompatible materials	Avoid water, potassium product metals and organic materials, oxidizing and reducing agents.
Decomposing products	Toxic fumes of oxides when heated to decomposition will react with water to form corrosive fumes, reacts with carbonates to produce carbon dioxide and reacts with hydrogen to produce hydrogen cyanide and hydrogen sulphate which is poisonous.

**11 - TOXICOLOGICAL INFORMATION**

Acute toxicity	Exposure to high concentration of acid mist cause irritation of the eyes, respiratory track and skin. It causes teeth erosion.
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**12 - ECOLOGICAL INFORMATION**

Aquatic toxicity	Toxic to aquatic life.
Bio-degradability	When released in air, it can leach into the ground water.

**13 - DISPOSAL CONSIDERATIONS**

Disposal method	Read the disposal methods on the product. Taking the product to an approved recycling plant is advised. Any other material that cannot be recovered should be disposed off as hazardous waste. Observe all warning and precautions listed on the product.
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**14 - TRANSPORT CONSIDERATIONS**

UN No	2794
Substance identity No	Dilute Sulphuric acid (1.245g/cm <sup>3</sup> or 30% H <sub>2</sub> SO <sub>4</sub> )
Road	
Proper shipping name	Corrosive liquid, Sulphuric acid (1.245g/cm <sup>3</sup> or 30% H <sub>2</sub> SO <sub>4</sub> )
Hazard class	8



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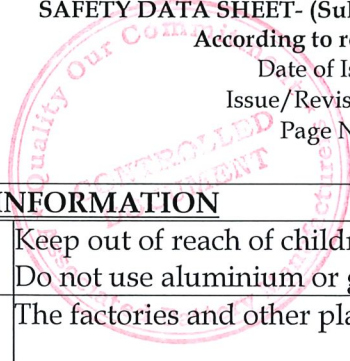
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**15 - REGULATORY INFORMATION**

Safety requirements	Keep out of reach of children. Do not use aluminium or galvanized vessels when making up solutions.
Legislation requirements	The factories and other places of work hazardous substances rules, 2007.
Other regulations	OSHA. Hazardous by definition of hazard.

**16 - OTHER INFORMATION**

Skin antidote	In case of skin contact, drench the skin with plenty of water and generously apply magnesia/ glycerol paste. Blisters and burns must receive medical attention.
Mouth antidote	Wash out the mouth thoroughly with water followed by milk of magnesia.
Preparation of magnesia glycerol oil	Preparation of magnesia/ glycerol paste. Triturate 200g of magnesia oxide with 240ml glycerol. Milk of magnesia - obtain from a chemist.

**17 - AMENDMENT SHEET**

Issue/ Rev	Date	Page	Section	Description of changes	Requested by
1/01	19.04.18	All	All	Document amended to include the missing elements/ components of MSDS.	Q&CSM
1/02	03.07.18	All	All	More information on composition and information on ingredients, Emergency numbers, fire-fighting measures handling and storage and hazard identification provided. <b>Ref Document change request ABM-038-018</b>	Q&CSM
1/03	21.11.20	All	All	Removal of word "Material" in the title so as to remain with Safety Data sheet. Change of document reference from ABM-QCS-MSDS-003 to ABM-QCX-SDS-(SA)-001. Change of contact personnel from Quality & Customer Experience Manager to Technical Manager. Review of administrative section; prepared by changed from Quality Technician to Process Coordinator and approved by changed from Q&CSM to Technical Manager.	System Coordinator