

Material Safety Data Sheet (MSDS)			
1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION			
Trade Name	:	SULPHURIC ACID-98%	
Manufacture's Name Address	:	Allied Chemicals S.C. Kebele - 9, Near to Adama Steel, Adama Expressway, Adama ,Oromia	
Office	:	Room No 405, H& M Building, Opposite Hayaulat LRT Station, H/Gebreselassie Road, Addis Ababa, Ethiopia. Email: alliedcls@gmail.com	
Telephone	:	011-6182354	
2. COMPOSITION / INGREDIENTS			
Common Chemical Name or Technical Name		Hydrogen Sulphate, Oil of Vitriol, Battery Acid	
Chemical Identity H ₂ SO ₄ Water	:	CAS No. 7664-93-9 7732-18-5	Weight Range 98% 2%
3. HAZARD IDENTIFICATION			
Health Rating	:	Harmful if ingested. This is highly corrosive in nature.	
Flammability Rating	:	Not flammable, but reacts with most metals to form explosive/flammable hydrogen gas.	
Reactivity Rating	:	Instability: Stable, but reacts violently with water and organic materials with evolution of heat. Decomposition: Releases sulfur dioxide at extremely high temperatures. Polymerization: Polymerization will not occur	
Contact Rating	:	Eyes: Prolonged or repeated skin contact may cause dermatitis, an allergic skin reaction unless washed out immediately. With skin Causes severe skin irritation and burns. Continued contact can cause tissue necrosis Ingestion: Harmful if swallowed. May cause permanent damage to the digestive tract. Causes gastrointestinal tract burns. Inhalation: May cause severe irritation of the respiratory tract and mucous membranes with sore throat, coughing, shortness of breath, and delayed lung edema.	
4. FIRST AID MEASURES			
Eye	:	Immediately flush eyes with running water for a minimum of 20 minutes. Hold eyelids open during flushing. If	

		irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY. Do not transport victim until the recommended flushing period is completed unless flushing can be continued during transport.
Skin	:	Immediately flush skin with running water for a minimum of 20 minutes. Start flushing while removing contaminated clothing. If irritation persists, repeat flushing. Obtain medical attention immediately. Do not transport victim unless the recommended flushing period is completed or flushing can be continued during transport.
Inhalation	:	Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Do not use mouth-to-mouth method if victim ingested or inhaled the substance: induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Give Cardiopulmonary Resuscitation (CPR) if there is no pulse AND no breathing. Obtain medical attention IMMEDIATELY.
Ingestion	:	DO NOT INDUCE VOMITING. If victim is alert and not convulsing, rinse mouth and give $\frac{1}{2}$ to 1 glass of water to dilute material. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. IMMEDIATELY contact local poison control center.
<i>*In all of the above cases, get a doctor to check the affected person.</i>		
5. FIRE HAZARD AND FIRE-FIGHTING MEASURES		
Flash point	:	Not Applicable.
Means of extinction	:	Use water spray, Carbon Dioxide, Dry Chemical, or Foam. Use Water to keep fire-exposed container cool.
Flammability	:	Non-Flammable.
Personnel	:	Fire fighters should wear full protective clothing, including self-contained breathing equipment.
Hazardous combustion product	:	: Toxic gases and vapours (e.g. sulfur dioxide, sulfuric acid vapours/mists and sulphur trioxide) may be released when sulfuric acid decomposes.
6. ACCIDENTAL RELEASE		
Engineering Controls	:	Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits. The most effective measures are the total enclosure of processes and the

		mechanization of handling procedures to prevent all personal contact with sulfuric acid. Safety showers and eyewash stations should be installed in storage and handling areas.
Leak-And-Spill Procedures	:	Cover with DRY earth, sand or other non-combustible material or absorb with an inert dry material and place in a loosely covered plastic or other appropriate waste disposal container. Stop leak if possible without risk. Dike with DRY earth, sand or other non-combustible inert material. Prevent entry into sewers or waterways.
7. HANDLING AND STORAGE MEASURES		
Handling Containers	:	Wear appropriate Personal Protection Equipment. Do not breathe sprays or mists. Do not ingest. Do not get in eyes, on skin or on clothing. Keep ignition sources away from sulfuric acid storage, handling and transportation equipment.
Storage Conditions of Containers	:	If stored in non-reactive container, keep container tightly closed. Metal and, specifically carbon steel, storage tanks must be vented due to hydrogen release as noted above
8. PERSONAL PROTECTION MEASURES		
Skin	:	Where there is a danger of spilling or splashing, acid resistant aprons or suits should be worn. Trouser legs should be worn outside (not tucked in) rubber boots.
Respiration	:	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator
Eyes	:	Chemical goggles and face shield.
Feet	:	Safety Shoes/Gum Boots.
Body	:	Aprons.
Hygiene precautions	:	Remove contaminated clothing and wash hands.
9. PHYSICAL AND CHEMICAL PROPERTIES		
Physical state	:	Liquid.
Moisture & Volatiles %	:	Max 2%
Specific gravity (98%)	:	1.84
Boiling point	:	330°C
Pour point	:	-
Solubility in water.	:	Soluble
10. REACTIVITY DATA		
Chemical Stability	:	stable

Incompatibility with other Substances	:	Hydroxides, carbides, carbonate.
Reactivity and under what conditions	:	Exposure to strong heat or mineral acids may lead to chemical decomposition & acidic by-products.
Hazardous Decomposition	:	Toxic gases and vapors (e.g. sulfur dioxide, sulfuric acid vapors/mists and sulfur trioxide) may be released when sulfuric acid decomposes.

11. TOXICOLOGICAL PROPERTIES

Toxicity	:	Carcinogenic
Skin contact	:	Irritation and burns. Continued contact can cause tissue necrosis.
Inhalation acute	:	Harmful if swallowed. May cause permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the stomach, GI bleeding, edema of the glottis, necrosis and scarring, and sudden circulatory collapse (similar to acute inhalation). It may also cause systemic toxicity with acidosis.
Skin absorption	:	Skin irritation and burns.
Inhalation	:	severe irritation of the respiratory tract and mucous membranes with sore throat, coughing, shortness of breath, and delayed lung edema
Eye contact	:	May cause irreversible eye injury
Ingestion	:	may also cause systemic toxicity with acidosis
Effect of Acute and Chronic Exposure to Material	:	Prolonged or repeated inhalation may affect behavior (muscle contraction or spasticity), urinary system (kidney damage), and cardiovascular system, heart (ischemic heart lesions), and respiratory system/lungs (pulmonary edema, lung damage), teeth (dental discoloration, erosion).
Irritancy of material	:	High
Carcinogenicity, Reproductive Effects, Teratogenicity, Mutagenicity	:	The IARC has concluded that occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic to man, causing cancer of the larynx

12. ECOLOGICAL INFORMATION

Harmful to aquatic life in very low concentrations. May be dangerous if it enters water intake; Fish toxicity; 2.8 µg/L 96 hrs LC50 Rainbow trout.

13. WASTE DISPOSAL

Leak-and-spill procedures	:	Cover with DRY earth, sand or other non-combustible material or absorb with an inert dry material and place in a loosely covered plastic or other appropriate waste
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		disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate, lime, or other suitable neutralizing agent.
Disposal	:	Dispose of waste material at an approved waste treatment/disposal facility, in accordance with applicable regulations. Do not dispose of waste with normal garbage or to sewer systems.
14. TRANSPORT RECOMMENDATION		
Observe the usual precautionary measures for transporting chemicals.		
15. REGULATORY REQUIREMENTS		
Should observe prescribed Federal, State and Local measures while dealing with chemicals.		
16. OTHER INFORMATION		
The information presented here pertains only to the product when stored in a condition, as prescribed above. The information is given in good faith, but no warranty, express or implied, is made.		