Safety Data Sheet

Section 01 - Identification

Product Identifier	Ammonium Sulphate Solution 40%
Other Means of Identification	Liquid ammonium sulphate, LAS, Ammonium sulphate
Product Use and Restrictions on Use	Municipal and industrial water and wastewater treatment for disinfection as a source of ammonia in chloramination. Disinfection byproduct control.
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
24-Hour Emergency Phone	Phone: 1 (306) 664 – 2522

Section 02 - Hazard Identification

GHS-Classification

This product has been assessed in accordance with the Hazardous Products Regulations and is not classified as a hazardous substance or mixture.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Ammonium sulphate	7783-20-2	38-40	Not Available
Citric acid	77-92-9	0.04	Not Available
Water	7732-18-5	60-62	Not Available

Section 04 - First Aid Measures

Inhalation	If symptoms are experienced, remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention.
Skin Contact / Absorption	Rinse skin with lukewarm, gently flowing water and non-abrasive soap. If irritation occurs or persists, seek medical attention.
Eye Contact	Immediately flush eye(s) with water lukewarm, gently flowing water for 30 minutes, while forcibly holding the eyelid(s) apart to ensure complete irrigation of eye tissue. If irritation persists, seek medical attention.
Ingestion	Never give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth thoroughly with water. Do not induce vomiting. Have victim rinse mouth. If vomiting occurs naturally, repeat administration of water. Seek medical attention.
Additional Information	Not Available

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media	Small Fires: Use dry chemical powder or carbon dioxide. Large Fires: Use water spray, fog or foam.
Unsuitable Extinguishing Media	Do not use a heavy water system, as it may spread fire.
Specific Hazards Arising From the Chemical	Product is not explosive and hazardous reactions will not occur under normal conditions. Hazardous combustion product is ammonia.
Special Protective Equipment for Fire-Fighters	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
Further Information	Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so.
Environmental Precautions	Prevent product from entering sewers, waterways or confined spaces. Notify authorities if liquid enters sewers or public waters.
Methods and Materials for Containment and Cleaning Up	SMALL SPILLS: Contain any spills with absorbents or a dike to prevent the possibility of the product entering sewers or streams. Collect material and place it into a suitable container for later disposal. LARGE SPILLS: Dike with inert material (sand, earth, etc.). Consider in site neutralization and disposal. Comply with Federal, Provincial and local regulations on reporting releases.

Section 07 - Handling and Storage

Precautions for Safe Handling	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated area, out of direct sunlight. Do not store below ground level or in confined spaces. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel.
Incompatibilities	Strong acids, strong bases, strong oxidizers, chlorates, nitrates, and nitrites.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Ammonium sulphate	ACGIH	TLV	Not Available
	OSHA	PEL	Not Available
	NIOSH	IDLH	Not Available

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
Other	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face	Safety glasses with side shields should be worn while product is being handled. Contact lenses should not be worn as they may contribute to severe eye injury.
Hand Protection	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Skin and Body Protection	Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.
Respiratory Protection	Respiratory protection should not be required under normal conditions.
Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Liquid
Colour	Clear, faint yellow to amber colour
Odour	Odourless
Odour Threshold	Not Available

Property

pH	3-5
Melting Point/Freezing Point	Not Available
Initial Boiling Point and Boiling Range	Not Available
Flash Point	Not Available
Evaporation Rate	Not Available
Flammability	Not Available
Upper Flammable Limit	Not Available
Lower Flammable Limit	Not Available
Vapour Pressure (mm Hg, 20^{o}C)	Not Available
Vapour Density (Air=1)	Not Available
Relative Density	Not Available
Solubility(ies)	Not Available
Partition Coefficient: n-octanol/water	Not Available
Auto-ignition Temperature	Not Available
Decomposition Temperature	Ammonium sulphate: 235ºC (455ºF)

Viscosity	Not Available
Explosive Properties	Not expected to present an explosion hazard due to mechanical impact or static discharge.
Specific Gravity (Water=1)	1.216-1.228
% Volatiles by Volume	Not Available
Formula	Not Available
Molecular Weight	Not Available

Section 10 - Stability and Reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical Stability	Normally stable under normal conditions.
Possibility of Hazardous Reactions	None known.
Conditions to Avoid	Direct sunlight, high temperatures, open flames, electric sparks, welding.
Incompatible Materials	Strong acids, strong bases, strong oxidizers, chlorates, nitrates, and nitrites.
Hazardous Decomposition Products	Ammonia and sulfur oxides.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Ammonium sulphate	>2000 mg/kg (rat)	Not Available	Not Available

Chronic Toxicity – Carcinogenicity

Component	IARC
Ammonium sulphate	Not considered carcinogenic

Skin Corrosion/Irritation	Irritation. Repeated skin contact may lead to dermatitis. Symptoms are generally alleviated when exposure ends.
Serious Eye Damage/Irritation	Irritation
Ingestion	Moderately toxic, ingesting more than a teaspoon can cause further injury/
Inhalation	Not Available
Germ Cell Mutagenicity	Not Available
Reproductive Toxicity	Not Available
STOT-Single Exposure	Ingestion (especially in large volumes) can irritate the tissues of the mouth, esophagus, and other tissues of the digestive system. Respiratory irritation. Exposure can cause coughing, chest pains, and difficulty in breathing.
STOT-Repeated Exposure	Not Available
Aspiration Hazard	Not Available
Synergistic Materials	Not Available

Section 12 - Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Ammonium sulphate	Not Available	LC_{50}(Oncorhynchus mykiss static, 96hr): 5.2 (5.2-8.2)mg/L LC_{50}(Oncorhynchus mykiss flow through, 96hr): 32.2 (32.2-41.9)mg/L	LC_{50}(Daphia magna, 96hr): 14 mg/L

Biodegradability	Not Available
Bioaccumulation	Ammonium sulphate Log Pow -5.1 (at 25ºC)
Mobility	Not Available
Other Adverse Effects	Avoid spills and/or release into water sources.

Section 13 - Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transport Information

UN Number	Not Regulated
UN Proper Shipping Name	Not Regulated
Transport Hazard Class(es)	Not Regulated
Packaging Group	Not Regulated
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special Precautions	Not Available
Transport in Bulk	Not Available

TDG

Other	Secure containers (full and/or empty) with suitable hold down devises during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 - Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

NSF product use restrictions are based on requirement obtained from the NSF website at time of SDS preparation. Please refer to last shipment bill of lading or NSF website for current requirements.

Section 16 - Other Information

Preparation Date August 4, 2016

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

1) CHEMINFO
2) eChemPortal
3) TOXNET
4) Transportation of Dangerous Goods Canada
5) HSDB
6) PAN

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