



MATERIAL SAFETY DATA SHEET

From: Wynyard Technologies Inc.
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Liquid Ammonium Sulphate

Section 01 – Product Identification And Company Identification

Product Identifier..... Liquid Ammonium Sulphate
Synonym(s)..... Diammonium Sulphate; Sulphuric Acid Diammonium Salt
CAS No..... 7783-20-2
Molecular Weight..... 132.14
Chemical Formula..... (NH₄)₂SO₄
Product Uses..... Liquid Ammonium Sulphate Fertilizer; Herbicide Adjuvant; Water Treatment
Supplier's Name..... Wynyard Technologies Inc.
710 Avenue A, Wynyard, SK, Canada, S0A 4T0
MSDS Prepared By Wynyard Technologies Inc. - Technical Department
Phone: (306) 554-4144
MSDS Preparation Date..... December 21, 2008

Section 02 – Composition / Information on Ingredients

No Regulated Components Present

Ingredients..... Ammonium Sulphate (NH₄)₂SO₄ 32% to 38% w/w
Water (H₂O) 62% to 68% w/w
C.A.S. Number..... Ammonium Sulphate 7783-20-2
Water 7732-18-5
Toxicological Data..... LD₅₀ 3000mg/kg (oral rat)

Section 03 – Hazards Identification

Emergency Overview

Warning! Causes Irritation to Skin, Eyes, and Respiratory Tract, May Be Harmful If Swallowed.

Health Rating: 1 = Slight

Flammability Rating: 0 = None



Wynyard Technologies Inc.

Reactivity Rating: 1 = Slight

Contact Rating: 2 = Moderate

Protective Equip: Goggles; Coveralls; Proper Gloves

Potential Health Effects

- Inhalation**..... Irritating to the respiratory tract. Symptoms may include coughing and shortness of breath.
- Ingestion**..... Causes irritation to the gastrointestinal tract. Symptoms may include diarrhea, nausea, vomiting. It presents little toxicity unless large amounts are ingested; in which case vomiting and diarrhea are likely.
- Skin Contact / Absorption**..... May cause irritation to the skin with prolonged contact. Symptoms may include redness, irritation, itching, and pain.
- Eye Contact**..... Causes irritation to the eyes. Symptoms may include redness, pain.
- Chronic Exposure** No information found.
- Aggravation of Pre-Existing Conditions**..... No information found.

Section 04 - First Aid Measures

- Inhalation**..... Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention.
- Ingestion**..... Give large amounts of water and induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention.
- Skin Contact / Absorption**..... Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation develops or persists. Wash clothing prior to re-use.
- Eye Contact**..... Flush immediately with copious amounts of water for 15 to 20 minutes. Forcibly hold eyelids open to ensure complete irrigation of the eye tissue. Seek medical attention.

Section 05 - Fire Fighting

- Conditions of Flammability**... Non-flammable. Flammable ammonia gas may be released in a fire.
- Explosion**..... May explode if mixed with strong oxidizers (such as nitrates, nitrites, chlorates, etc.)
- Fire Extinguishing Media**..... Product does not burn. Water spray may be used to keep fire-exposed containers cool. Use appropriate media for extinguishing surrounding fire (water, chemical foam, dry chemical, or carbon dioxide).
- Flash Point**..... Not applicable.
- Auto-Ignition Temperature**.. Not Applicable.
- Upper Flammable Limit**..... Not Applicable.
- Lower Flammable Limit**..... Not Applicable.
- Special Information**..... In the event of a fire wear full protective clothing and NIOSH-approved self-contained breathing apparatus.



Section 06 – Accidental Release Measures

Leak / Spill..... Wear appropriate personal protective equipment. Ventilate area of spill. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (vermiculite, dry sand, earth, absorbent clays and place in a chemical waste container. Do not use combustible materials such as sawdust. Do not flush to sewer.

Section 07 – Handling and Storage

Handling Procedures..... Keep in a tightly closed container. Store in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Observe all warnings and precautions listed for the product. Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Avoid situations that could lead to harmful exposure.

Section 08 – Personal Protection and Exposure Controls

Airborne Exposure Limits..... None established.

Ventilation System..... A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source preventing dispersion into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition for details.

Personal Respirators..... NIOSH Approved. For conditions of use where exposure to the substance is apparent, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full face, positive pressure, air supplied respirator. **WARNING:** Air purifying respirators do not protect workers in oxygen deficient atmospheres.

Skin Protection..... Wear impervious clothing, including boots, gloves, lab coat, apron, or coveralls, to prevent skin contact.

Eye Protection..... Chemical safety goggles or a full-face shield should be worn at all times where splashing or contact is possible. Maintain eye wash fountain and quick-drench facilities in the work area.

Section 09 – Physical and Chemical Properties

Physical State..... Liquid
Appearance..... Colourless to light tan liquid
Solubility..... Complete
Specific Gravity..... 1.185 to 1.220 (water = 1.0)
pH..... 5.0 (100g per 1 L water)



Viscosity.....	2.0 Mpa.s @ 40°C
Boiling Point.....	Approximately 104°C (219°F).
Freezing Point.....	-6°C (21°F)
Vapour Density (Air = 1).....	No information found.
Vapour Pressure (mm Hg).....	No information found.
Evaporation Rate (BuAc=1)...	No information found.
Odour Threshold.....	No information found.
Molecular Formula.....	(NH ₄) ₂ SO ₄ (aqueous solution)
Molecular Weight.....	132.14 (ammonium sulphate)

Section 10 – Stability and Reactivity

Stability.....	Stable under normal conditions of use and storage.
Incompatibility.....	Strong oxidizing agents. (Nitrates, nitrites, chlorates, and other strong oxidizers.)

Hazardous Decomposition

Products.....	Decomposition products may include ammonia, sulphur oxides, nitrogen oxides.
Hazardous Polymerization....	Will not occur.
Conditions to Avoid.....	High heat, Incompatible substances.

Section 11 – Toxicological Information

Irritancy.....	Mild irritant
Sensitization.....	No information found.
Chronic/Acute Effects.....	Prolonged or repeated skin exposure may cause skin irritation.
Synergistic Materials.....	No information found.
Animal Toxicity	LD ₅₀ 3000 mg/kg (oral, rat)
Carcinogenicity.....	Not listed as carcinogenic (IARC and ACGIH).
Reproductive Toxicity.....	No information found.
Teratogenicity.....	No information found.
Mutagenicity.....	No information found.

Section 12 – Ecological Information

Fish Toxicity.....	TL _m (Daphnia Magna, 24 hrs) 423 mg/L
Environmental Effects.....	No information found.
Biodegradability.....	No information found.
General Advice.....	Ammonium sulphate solution is a plant nutrient. Large spills could possibly damage vegetation. Contamination of waterways may possibly lead to fish kills. Prevent spread and runoff into drains, storm sewers, and ditches that lead to waterways.



Section 13 – Disposal Consideration

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options and requirements. Local disposal regulations may differ from region to region. Dispose of container and contents in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 – Transportation Information

TDG Classification

- Class**..... Not regulated
- Group**..... Not regulated
- PIN Number**..... Not regulated
- Other**..... Secure shipping containers with suitable hold down devices during shipment.

Section 15 – Regulatory Information

WHIMIS Classification..... **Not a controlled product.**

Note: The product listed on this MSDS has been classified in accordance with the hazard criteria of the Canadian controlled products regulations. This MSDS contains all information required by those regulations.

Section 16 – Other Information

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. Although reasonable care has been taken in the preparation of such information, Wynyard Technologies Inc., makes no warranties, makes no representations, and assumes no responsibility for the accuracy or suitability of such information for application to the purchaser's intended purposes or for the consequences of its use.