



Liquid Ammonium Sulfate

Safety Data Sheet

Safety Data Sheet #: CHE-5040S
Revision Date: July 18, 2024

Version: 5.0

Section 1. Identification

Product identifier

Product Identity

Liquid Ammonium Sulfate

Other means of identification

Ammonium Sulfate Solution

Relevant identified uses of the substance or mixture and uses advised against

Municipal and industrial water and wastewater treatment for disinfection as a source of ammonia in chloramination. Disinfection byproduct control. Restrictions on use: Not available.

Details of the supplier of the safety data sheet

Company Name

Chemtrade Logistics Inc. (Canada)
155 Gordon Baker Road Suite 300
Toronto, Ontario M2H 3N5
(416) 496-5856

Chemtrade Logistics Inc. (US)
90 East Halsey Road, Suite 200
Parsippany, NJ 07054
(800) 228- 8558

Emergency

24 hour Emergency Telephone No.

Chemtrade Emergency Contact: (866) 416-4404 (US and Canada)
CHEMTREC +1-800-424-9300
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

Customer Service:

For SDS Info: (416) 496-5856
www.chemtradelogistics.com

Section 2. Hazard(s) identification

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

Classification of the substance or mixture

Label elements

Warning

[Prevention]:

[Response]:

P302 IF ON SKIN:

P312 Call a POISON CENTER, doctor or physician if you feel unwell.

[Storage]:**[Disposal]:****Other hazards**

This product contains no PBT/vPvB chemicals.

This product contains no endocrine disrupting chemicals.

Section 3. Composition/information on ingredients
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This product contains the following substances that present a hazard within the meaning of the Hazardous Products Regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Water CAS Number: 7732-18-5 Synonyms: Pure Water	39.9 - 69	Not Classified	No data available
Ammonium sulfate CAS Number: 7783-20-2 Synonyms: Ammonium sulphate, Sulfuric acid diammonium salt	30 - 60	Not Classified	No data available
Citric acid CAS Number: 77-92-9 Synonyms: 2-HYDROXY 1, 2, 3 PROPANE TRICARBOXYLIC ACID	0.1 - 1.0	Eye Dam. 2;H319	No data available

The actual concentration or concentration range is withheld as a trade secret.

*PBT/vPvB - PBT-substance or vPvB-substance.

The full texts of the phrases are shown in Section 16.

The specific chemical identity and/or exact percentage of composition are withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200].

Section 4. First aid measures

Description of first aid measures**General**

In all cases of doubt, or when symptoms persist, seek medical attention.
Never give anything by mouth to an unconscious person.

Inhalation

Remove to fresh air, keep patient warm and at rest. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes

Irrigate copiously with clean water for at least 30 minutes, holding the eyelids apart and seek medical attention. Remove contact lenses, if present and easy to do.
Continue rinsing.

Skin

Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser. Drench affected area with water for at least 30 minutes.
Obtain medical attention if irritation develops or persists.

Ingestion

If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Overview May be harmful in contact with skin. **General:** Not expected to present a significant hazard under anticipated conditions of normal use.
Inhalation: Prolonged exposure may cause irritation.
Skin Contact: Prolonged exposure may cause skin irritation.
Eye Contact: May cause slight irritation to eyes.
Ingestion: Ingestion may cause adverse effects.

Indication of Any Immediate Medical Attention and Special Treatment Needed: If exposed or concerned, get medical advice and attention.
See section 2 for further details.

Skin May be harmful in contact with skin.

Chronic effects Not available, none known.

Section 5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing Media: Water spray, dry chemical, foam, carbon dioxide.

Unsuitable extinguishing media: Do not use water jet, or heavy water stream. Use of heavy stream of water may spread fire.

Special hazards arising from the substance or mixture

Hazardous decomposition: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full-face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean up immediately after fire. No smoking.

Fire Hazard: Not considered flammable but may burn at high temperatures. **Explosion Hazard:** Product is not explosive.

Firefighting Instructions: Do not enter fire area without proper protective equipment, including respiratory protection. Use water spray or fog for cooling exposed containers. **Exercise caution when fighting any chemical fire.**

Hazardous Combustion Products: Forms ammonia, sulfur dioxide and/or sulfur trioxide at temperatures reported above 235° C (455° F) **Hazardous reactions** will not occur under normal conditions.

Other Information: Do not allow run-off from firefighting to enter drains or water courses.

ERG Guide No. ----

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

General Measures: Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid contact with eyes, skin and clothing. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. See Section 8.

Use only outdoors or in a well-ventilated area. Do not breathe mist, spray, and vapours.

Do not get in eyes, on skin, or on clothing. Use appropriate personal protection equipment (PPE). Wear

protective gloves, eye protection, face protection (refer to section 8 for more details).
Use good personal hygiene practices. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Promptly remove soiled clothing and wash thoroughly before reuse.

Environmental precautions

Prevent entry to sewers and public waters. Avoid release to environment.

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

Methods and material for containment and cleaning up

Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Ventilate area.

Methods for Clean up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions. Ventilate area. Equip cleanup crew with proper protection.

Section 7. Handling and storage

Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

Use only outdoors or in a well-ventilated area. Do not breathe mist, spray, and vapours.

Do not get in eyes, on skin, or on clothing. Use appropriate personal protection equipment (PPE). Wear protective gloves, eye protection, face protection (refer to section 8 for more details).

Use good personal hygiene practices. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

Conditions for safe storage, including any incompatibilities

Store in a dry, cool and well-ventilated place. Containers which are opened should be properly resealed and kept upright to prevent leakage. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Comply with applicable regulations.

Incompatible materials: Strong acids, strong bases, strong oxidizers, nitrites

See section 2 for further details. - [Storage]:

Specific end use(s)

Municipal and industrial water and wastewater treatment for disinfection as a source of ammonia in chloramination. Disinfection byproduct control.

Restrictions on use: Not available.

Section 8. Exposure controls / personal protection

Control parameters

Exposure

CAS No.	Ingredient	Source	Value
77-92-9	Citric acid	ACGIH	No Established Limit
		OSHA	No Established Limit
		NIOSH	No Established Limit
		Alberta	No Established Limit
		British Columbia	No Established Limit
		Manitoba	No Established Limit
		New Brunswick	No Established Limit
		Newfoundland and Labrador	No Established Limit
		Nova Scotia	No Established Limit
		Northwest Territories	No Established Limit
		Nunavut	No Established Limit
		Ontario	No Established Limit
		Prince Edward Island	No Established Limit
		Quebec	No Established Limit
Saskatchewan	No Established Limit		
Yukon	No Established Limit		
7732-18-5	Water	ACGIH	No Established Limit
		OSHA	No Established Limit
		NIOSH	No Established Limit
		Alberta	No Established Limit
		British Columbia	No Established Limit
		Manitoba	No Established Limit
		New Brunswick	No Established Limit
		Newfoundland and Labrador	No Established Limit
		Nova Scotia	No Established Limit
		Northwest Territories	No Established Limit
		Nunavut	No Established Limit
		Ontario	No Established Limit
		Prince Edward Island	No Established Limit
		Quebec	No Established Limit
Saskatchewan	No Established Limit		
Yukon	No Established Limit		
7783-20-2	Ammonium sulfate	ACGIH	No Established Limit
		OSHA	No Established Limit
		NIOSH	No Established Limit
		Alberta	No Established Limit
		British Columbia	No Established Limit
		Manitoba	No Established Limit
		New Brunswick	No Established Limit
		Newfoundland and Labrador	No Established Limit
		Nova Scotia	No Established Limit
		Northwest Territories	No Established Limit
		Nunavut	No Established Limit

	Ontario	No Established Limit
	Prince Edward Island	No Established Limit
	Quebec	No Established Limit
	Saskatchewan	No Established Limit
	Yukon	No Established Limit

Exposure controls**Respiratory**

If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Eyes

Chemical safety goggles

Skin

Avoid skin contact. Avoid skin contact. Wear protective gloves. Wear suitable protective clothing.

Materials for Protective Clothing: Chemically resistant materials and fabrics.

Engineering Controls

Exposure Controls Appropriate Engineering Controls: Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Other Work Practices

Put on appropriate personal protective equipment. Chemically compatible gloves, protective clothing, and chemical resistant safety goggles. Use only outdoors or in a well-ventilated area. Do not breathe mist, spray, and vapours.

Do not get in eyes, on skin, or on clothing. Use appropriate personal protection equipment (PPE). Wear protective gloves, eye protection, face protection (refer to section 8 for more details).

Use good personal hygiene practices. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details.

Section 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical State	Liquid
Color	Clear, yellow to amber color
Odor	Odorless
Freezing point	-12 °C (10.4 °F)
Initial boiling point and boiling range	No available information
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: No available information

Flash Point	Upper Explosive Limit: No available information No available information
Auto-ignition temperature	No available information
Decomposition temperature	No available information
pH	3 - 7
Viscosity (cSt)	No available information
Solubility in Water	Completely Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	No available information
Vapour pressure (Pa)	No available information
Relative Density	No available information
Vapour Density	No available information
Evaporation rate (Ether = 1)	No available information
Specific Gravity	1.216 - 1.228
Density (pounds/gallon)	10.15 - 10.25
Other information	
No other relevant information.	

Section 10. Stability and reactivity

Reactivity

Hazardous reactions will not occur under normal conditions

Chemical stability

Stable under recommended handling and storage conditions (see section 7).

Possibility of hazardous reactions

Hazardous polymerization will not occur.

Conditions to avoid

Direct sunlight, extremely high or low temperatures, and incompatible materials.

Incompatible materials

Strong acids, strong bases, strong oxidizers, nitrites

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Acute toxicity

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation vapour LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Product Acute Toxicity Estimates	6992	5,000	NA	NA	NA

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation vapour LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Water - (7732-18-5)	90,000.00, Rat - Category: NA	No data available.	No data available.	No data available.	No data available.
Ammonium sulfate - (7783-20-2)	4,250.00, Rat - Category: 5	2,000.00, Rat - Category: 4	No data available.	No data available.	No data available.
Citric acid - (77-92-9)	5,400.00, Mouse - Category: NA	> 2,000.00, Rat - Category: NA	No data available.	No data available.	No data available.

Carcinogen Data

CAS No.	Ingredient	Source	Value
77-92-9	Citric acid	IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
		ACGIH	No Established Limit
7732-18-5	Water	IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
		ACGIH	No Established Limit
7783-20-2	Ammonium sulfate	IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
		ACGIH	No Established Limit

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

Possible routes of entry:

Symptoms and effects, both acute and delayed:

May be harmful in contact with skin. **General:** Not expected to present a significant hazard under anticipated conditions of normal use.

Inhalation: Prolonged exposure may cause irritation.

Skin Contact: Prolonged exposure may cause skin irritation.

Eye Contact: May cause slight irritation to eyes.

Ingestion: Ingestion may cause adverse effects.

Indication of Any Immediate Medical Attention and Special Treatment Needed: If exposed or concerned, get medical advice and attention.

Most likely route(s) of exposure Skin, Eyes

Skin May be harmful in contact with skin.
Chronic effects Not available, none known.

Section 12. Ecological information

Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Water - (7732-18-5)	No data available.	No data available.	No data available.
Ammonium sulfate - (7783-20-2)	53.00, Oncorhynchus mykiss	169.00, Daphnia magna	2,700.00, Chlorella vulgaris
Citric acid - (77-92-9)	> 100.00, Pimephales promelas	> 50.00, Dreissena polymorpha	No data available.

Persistence and degradability

There is no data available on the preparation itself.

Bioaccumulative potential

No available information

Mobility in soil

No available information

Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

Other adverse effects

No available information

Section 13. Disposal considerations

Waste treatment methods

Dispose of waste material in accordance with all local, regional, federal, provincial, state, territorial and international regulations.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Section 14. Transport information

Classification Method: Classified as per Part 2, Sections 2.1-2.8 of the Transportation of Dangerous Goods Regulations.

	DOT / TDG (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
UN number	Not Regulated	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated	Not Regulated

Transport hazard class(es)	TDG Hazard Class: Not Applicable Sub Class: Not Applicable	IMDG: Not Applicable Sub Class: Not Applicable	Air Class: Not Applicable Sub Class: Not Applicable
Packing group	Not Applicable	Not Applicable	Not Applicable
Environmental hazards	Marine Pollutant: No;		
Special precautions for user	No available information		

Section 15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

NFPA Ranking

Health (blue) :0

Fire (red) :1

Reactivity (yellow) :0

Special (white) :--



This product has been classified in accordance with the hazard criteria Hazardous Products Regulations (SOR/2015-17) and the SDS contains all of the information required by those regulations.

Toxic Substance Control Act (TSCA)

Ammonium sulfate (Present)

Citric acid ()

Water ()

EPCRA 311/312 Chemicals and RQs:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Canadian Domestic Substance List (DSL):

Ammonium sulfate

Citric acid

Water

Canadian Non-Domestic Substance List (NDSL):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%) :

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Pennsylvania RTK Substances (>1%):

Ammonium sulfate

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 Label Warning:

This product contains no chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Chemical Name (CAS Number)	US TSCA	Australia AICS	Korea ECL	EU EINECS	EU ELINCS	EU SVHC	EN NLP	Mexico INSQ
Water (7732-18-5)	Yes	Yes	Yes	Yes	No	No	No	Yes
Ammonium sulfate (7783-20-2)	Yes	Yes	Yes	Yes	No	No	No	Yes
Citric acid (77-92-9)	Yes	Yes	Yes	Yes	No	No	No	Yes

Chemical Name (CAS Number)	China IECSC	Japan ENCS	Japan ISHL	Japan PDSCL	Japan PRTR 1	Japan PRTR 2	Philippines PICCS	New Zealand NZIOC
Water (7732-18-5)	Yes	No	No	No	No	No	Yes	Yes
Ammonium sulfate (7783-20-2)	Yes	Yes	No	No	No	No	Yes	Yes
Citric acid (77-92-9)	Yes	Yes	No	No	No	No	Yes	Yes

Section 16. Other information

Revision Date 07/18/2024

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products.

Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H319 Causes serious eye irritation.

Disclaimer: The information presented herein is supplied as a guide to those who handle or use this product. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

Section :	Modification
1	Updated contact information
2	Updated classification information P & H statements based on ECHA harmonized classification
4	Updated language
5	Updated language
6	Updated language
7	Updated language
8	Updated language
9	Updated information
10	Updated language
11	Updated information
12	Updated language
13	Updated information
15	Updated information

Handle product with due care and avoid unnecessary contact. This information is supplied under U.S. OSHA'S "Right to Know" (29 CFR 1910.1200) and Canada's WHMIS regulations. Although certain hazards are described herein, we cannot guarantee these are the only hazards that exist. The information contained herein is based on data available to us and is believed to be true and accurate but it is not offered as a product specification. No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the product, or the results to be obtained from the use thereof, is made and Chemtrade and its affiliates assume no responsibility. Chemtrade is a member of the CIAC (Chemistry Industry Association of Canada) and adheres to the codes and principles of Responsible Care™.

