

Ammonium Chloride

SDS Preparation Date (mm/dd/yyyy): 08/31/2016

Page 1 of 9

## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Ammonium Chloride**

Product Code(s) : None reported.

Recommended use of the chemical and restrictions on use

: Industrial use  
Use pattern: Professional Use Only  
Recommended restrictions None known.

Chemical family : Inorganic ammonium salt

Name, address, and telephone number  
of the supplier:

**Comet Chemical Company Ltd.**

3463 Thomas Street  
Innisfill, ON, Canada  
L9S 3W4

Supplier's Telephone # : 705-436-5580

**24 Hr. Emergency Tel #** : TERRRAPURE ENVIRONMENTAL : 800-567-7455

Name, address, and telephone number of  
the manufacturer:

Refer to supplier

### SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

White crystals (solid). Odorless.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Acute toxicity, oral - Category 4  
Serious eye damage/eye irritation - Category 2A

Label elements

Hazard pictogram(s)



Signal Word

Warning!

Hazard statement(s)

Harmful if swallowed.  
Causes serious eye irritation.



Ammonium Chloride

SDS Preparation Date (mm/dd/yyyy): 08/31/2016

Page 2 of 9

## SAFETY DATA SHEET

### Precautionary statement(s)

Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear eye/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.  
If swallowed: Call a poison center/doctor if you feel unwell.  
Rinse mouth.  
Do NOT induce vomiting.

Dispose of contents/container in accordance with local regulation.

### Other hazards

Other hazards which do not result in classification:

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be mildly irritating to skin and respiratory system.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Ammonium chloride	Ammonium muriate	12125-02-9	100.00

## SECTION 4. FIRST-AID MEASURES

### Description of first aid measures

- Ingestion* : Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Never give anything by mouth to an unconscious person. Call a physician.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Obtain medical attention if symptoms develop and persist.
- Skin contact* : Wash off immediately with plenty of water. Remove and wash contaminated clothing before re-use. If irritation or symptoms develop, seek medical attention.
- Eye contact* : Immediately flush eyes with running water for at least 5 to 10 minutes. If irritation persists, seek prompt medical attention.

### Most important symptoms and effects, both acute and delayed

- : Causes serious eye irritation. Symptoms may include tearing, redness and discomfort. Direct skin contact may cause slight or mild, transient irritation. Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing media

#### *Suitable extinguishing media*

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

#### *Unsuitable extinguishing media*

- : Do not use a solid water stream as it may scatter and spread fire.



Ammonium Chloride

SDS Preparation Date (mm/dd/yyyy): 08/31/2016

Page 3 of 9

## SAFETY DATA SHEET

### Special hazards arising from the substance or mixture / Conditions of flammability

: Burning may produce irritating, toxic and obnoxious fumes.

### Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

### Hazardous combustion products

: Hydrogen chloride;Ammonia;Nitrogen oxides .

### Special protective equipment and precautions for firefighters

#### *Protective equipment for fire-fighters*

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

#### *Special fire-fighting procedures*

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

: Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear suitable protective equipment. Refer to protective measures listed in sections 7 and 8. Restrict access to area until completion of clean-up.

**Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

### Methods and material for containment and cleaning up

: Ventilate area of release. Stop spill or leak at source if safely possible. Dike for water control. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13).

### Special spill response procedures

: In case of transportation accident, contact TERRAPURE ENVIRONMENTAL at 1-800-567-7455.

EPA/CERCLA Reportable quantity (RQ): Ammonium chloride (5000 lbs / 2270 kg)

## SECTION 7. HANDLING AND STORAGE

### Precautions for safe handling

: Use only in well-ventilated areas. Wear eye/face protection. Avoid breathing vapours or mists. Avoid contact with eyes, skin and clothing. Keep away from extreme heat and flame. Do not eat, drink or smoke when using this product. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

**Conditions for safe storage** : Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Store away from incompatible materials.No smoking in the area.

**Incompatible materials** : Strong oxidizers (e.g. Chlorine, Peroxides, etc.). strong acids and bases.



Ammonium Chloride

SDS Preparation Date (mm/dd/yyyy): 08/31/2016

Page 4 of 9

## SAFETY DATA SHEET

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Ammonium chloride	10 mg/m <sup>3</sup> (fume)	20 mg/m <sup>3</sup> (fume)	N/Av	N/Av

#### Exposure controls

##### Ventilation and engineering measures

: Use in a well-ventilated area. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

##### Respiratory protection

: If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Advice should be sought from respiratory protection specialists.

##### Skin protection

: Gloves impervious to the material are recommended. Advice should be sought from glove suppliers.

##### Eye / face protection

: Wear eye/face protection. Safety glasses with side-shields or chemical splash goggles, depending on workplace standards.

##### Other protective equipment

: An eyewash station and safety shower should be made available in the immediate working area.

##### General hygiene considerations

: Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** : White crystals (solid).

**Odour** : Odorless.

**Odour threshold** : N/Av

**pH** : 5.5

**Melting/Freezing point** : Sublimes at 338°C

#### **Initial boiling point and boiling range**

: 520°C

**Flash point** : Not available.

**Flashpoint (Method)** : Not applicable.

**Evaporation rate (BuAe = 1)** : Not available.

**Flammability (solid, gas)** : Not applicable.

**Lower flammable limit (% by vol.)**

: Not available.

**Upper flammable limit (% by vol.)**

: Not available.

**Oxidizing properties** : None known.

**Explosive properties** : Not explosive

**Vapour pressure** : Not available.

**Vapour density** : 1.8 (Air = 1)

Ammonium Chloride

SDS Preparation Date (mm/dd/yyyy): 08/31/2016

Page 5 of 9

## SAFETY DATA SHEET

### Relative density / Specific gravity

: 1.09(water = 1)

### Solubility in water

: Soluble.

### Other solubility(ies)

: Very soluble in liquid ammonia; moderately soluble in methanol and absolute alcohol; slightly soluble in ethanol; practically insoluble in acetone, diethyl ether and ethyl acetate.

### Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

: -4.37

### Auto-ignition temperature

: Not available.

### Decomposition temperature

: Not available.

### Viscosity

: Not available.

### Volatiles (% by weight)

: Not available.

### Volatile organic Compounds (VOC's)

: N/Av

### Absolute pressure of container

: N/Av

### Flame projection length

: N/Av

### Other physical/chemical comments

: None known or reported by the manufacturer.

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

: Not normally reactive.

### Chemical stability

: Material is stable under normal conditions.

### Possibility of hazardous reactions

: Hazardous polymerization does not occur.

### Conditions to avoid

: Avoid excessive heat, sparks and open flame. Avoid contact with incompatible materials.

### Incompatible materials

: See Section 7 (Handling and Storage) for further details.

### Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

### Potential Health Effects:

#### Signs and symptoms of short-term (acute) exposure

##### *Sign and symptoms Inhalation*

: If product is heated or mists are formed, inhalation may cause irritation to the nose, throat and respiratory tract.

##### *Sign and symptoms ingestion*

: Ingestion may irritate digestive tract and cause nausea, vomiting and diarrhea.

##### *Sign and symptoms skin*

: Direct skin contact may result in little or no irritation.



Ammonium Chloride

SDS Preparation Date (mm/dd/yyyy): 08/31/2016

Page 6 of 9

## SAFETY DATA SHEET

- Sign and symptoms eyes* : Causes serious eye irritation. Symptoms may include tearing, redness and discomfort.
- Potential Chronic Health Effects** : Prolonged or repeated contact may cause drying, cracking and defatting of the skin.
- Mutagenicity** : Not expected to be mutagenic in humans.
- Carcinogenicity** : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
- Reproductive effects & Teratogenicity** : Not expected to cause reproductive effects.
- Sensitization to material** : Not expected to be a skin or respiratory sensitizer.
- Specific target organ effects** : This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).
- Medical conditions aggravated by overexposure** : None known.
- Synergistic materials** : Not available.
- Toxicological data** : See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u> <u>inh, rat</u>	<u>LD<sub>50</sub></u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Ammonium chloride	N/Av	1220 mg/kg	>2000 mg/kg

**Other important toxicological hazards**

- : None known or reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

- Ecotoxicity** : Not expected to be harmful to aquatic organisms. Do not allow material to contaminate ground water system. See the following tables for individual ingredient ecotoxicity data.

**Ecotoxicity data:**

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Ammonium chloride	12125-02-9	209 mg/L (Cyprinus carpio)	11.8 mg/L/28days	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Ammonium chloride	12125-02-9	101mg/L (Daphnia magna)	14.6mg/L (Daphnia magna)	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Ammonium chloride	12125-02-9	N/Av	N/Av	None.



Ammonium Chloride

SDS Preparation Date (mm/dd/yyyy): 08/31/2016

Page 7 of 9

## SAFETY DATA SHEET

**Persistence and degradability**

: Biodegradation is not applicable to inorganic substances.

**Bioaccumulation potential**

: Not expected to bioaccumulate.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Ammonium chloride (CAS 12125-02-9)	N/Ap	N/Ap

**Mobility in soil**

: High water solubility indicates a high mobility in soil.

**Other Adverse Environmental effects**

: No information available.

### SECTION 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal**

: Handle waste according to recommendations in Section 7.

**Methods of Disposal**

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

**RCRA**

: Under the RCRA, it is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, provincial and federal environmental agencies.

### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
TDG	None.	Not regulated.	Not regulated	none	
<b>TDG Additional information</b>	None.				

**Special precautions for user**

: None known or reported by the manufacturer.

**Environmental hazards**

: This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

: Not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:



**Ammonium Chloride**

SDS Preparation Date (mm/dd/yyyy): 08/31/2016

**SAFETY DATA SHEET**

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Ammonium chloride	12125-02-9	Yes	5000 lb/ 2270 kg	N/Av	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Acute Health Hazard Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

**US State Right to Know Laws:**

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Ammonium chloride	12125-02-9	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

**Canadian Information:**

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

**International Information:**

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Ammonium chloride	12125-02-9	235-186-4	Present	Present	(1)-218	KE-01645	Present	HSR002899

**SECTION 16. OTHER INFORMATION**

**Legend**

- : ACGIH: American Conference of Governmental Industrial Hygienists
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CSA: Canadian Standards Association
- DOT: Department of Transportation
- EPA: Environmental Protection Agency
- HMIS: Hazardous Materials Identification System
- HSDB: Hazardous Substances Data Bank
- IARC: International Agency for Research on Cancer
- Inh: Inhalation
- LC: Lethal Concentration
- LD: Lethal Dose
- MN: Minnesota
- N/Ap: Not Applicable
- N/Av: Not Available



**Ammonium Chloride**

**SDS Preparation Date (mm/dd/yyyy): 08/31/2016**

Page 9 of 9

## SAFETY DATA SHEET

NFPA: National Fire Protection Association  
 NIOSH: National Institute of Occupational Safety and Health  
 NJ: New Jersey  
 NTP: National Toxicology Program  
 OECD: Organisation for Economic Co-operation and Development  
 OSHA: Occupational Safety and Health Administration  
 PA: Pennsylvania  
 PEL: Permissible exposure limit  
 RCRA: Resource Conservation and Recovery Act  
 RI: Rhode Island  
 RTECS: Registry of Toxic Effects of Chemical Substances  
 SARA: Superfund Amendments and Reauthorization Act  
 STEL: Short Term Exposure Limit  
 TLV: Threshold Limit Values  
 TWA: Time Weighted Average  
 WHMIS: Workplace Hazardous Materials Identification System

- References** :
1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016
  2. International Agency for Research on Cancer Monographs, searched 2016
  3. Canadian Centre for Occupational Health and Safety, CCHInfoWeb databases, 2016(Chempendium, HSDB and RTECs).
  4. Material Safety Data Sheets from manufacturer.
  5. US EPA Title III List of Lists - 2016 version.
  6. California Proposition 65 List - 2016 version.
  7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal,2016.

**Preparation Date (mm/dd/yyyy)**

: 08/31/2016

**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

<p><b><u>Prepared for:</u></b>          Comet Chemical Company Ltd.          3463 Thomas Street          Innisfill, ON L9S 3W4          Information (M-F 8:00-5:00): 705-436-5580          www.cometchemical.com</p>	
<p><b><u>Prepared by:</u></b>          ICC The Compliance Center Inc.          Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada)  <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	

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