SAFETY DATA SHEET

Ammonium Nitrate, Liquid

Section 1. Identification

Product identifier : Ammonium Nitrate, Liquid

SDS # : **306**

Other means of identification

Synonyms : This safety data sheet applies to the following:

ANMINT – “Mint” Ammonium Nitrate Solution 82.5% Plus
ANS83 – Ammonium Nitrate, Liquid 83%
ANS83 – Ammonium Nitrate Solution DA290 – Industrial Grade
ANS83LP – Ammonium Nitrate 83% Low pH

Product code(s) : **ANMINT, ANS83, ANS83LP**

Product type : Liquid, molten

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

Identified uses
Reserved for industrial and professional use only. Manufacture of fertilizers and nitrogen compounds. . Manufacture of explosives

Uses advised against	**Reason**
Consumer use	U.S.and Canadian Federal regulations

Supplier's details : PCS Sales (USA), Inc. (A Subsidiary of Nutrien Ltd.)
Suite 150
500 Lake Cook Road
Deerfield, IL 60015
United States

PCS Sales (Canada), Inc. (A Subsidiary of Nutrien Ltd.)
Suite 1700
211 - 19th Street East
Saskatoon SK S7K 5R6
Canada

Company phone number (North America):
1-800-524-0132 (Customer Service)

sds@nutrien.com - www.nutrien.com

Emergency telephone number (with hours of operation) : Nutrien North American
24 HOUR EMERGENCY TELEPHONE NUMBERS:

English:
Transportation Emergencies: 1-800-792-8311
Medical Emergencies: 1-303-389-1653

French or Spanish:
Tranportation or Medical Emergencies: 1-303-389-1654

Section 2. Hazard identification

Classification of the substance or mixture : OXIDIZING LIQUIDS - Category 3
EYE IRRITATION - Category 2A

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : May intensify fire; oxidizer.
Causes serious eye irritation.

Precautionary statements

General : Not applicable.

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take any precaution to avoid mixing with combustibles. Keep away from clothing and other combustible materials.
Wear protective gloves. Wear eye or face protection. Wear protective clothing. Wash hands thoroughly after handling.

Response : 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 attention.
In case of fire: Use flooding quantities of water to extinguish. Evacuate area. Fight fire remotely due to the risk of explosion.

Storage : Store away from combustibles.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : None known.

Other hazards which do not result in classification : Heated material can cause thermal burns.

Section 3. Composition/information on ingredients

Substance/mixture : Multi-constituent substance

Ingredient name	%	CAS number
Ammonium nitrate	80 - 83	6484-52-2
Water	17 - 20	7732-18-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Heated material can cause thermal burns. Begin eye irrigation immediately. Eye exposures to nitrates may require medical evaluation following decontamination if pain or irritation persists. Immediately rinse eyes with large quantities of water or saline for a minimum of 15 minutes. If possible, remove contact lenses being careful not to cause additional eye damage. If the initial water supply is insufficient, keep the affected area wet with a moist cloth and transfer the person to the nearest place where rinsing can be continued for the recommended length of time. For

Section 4. First-aid measures

additional advice call the medical emergency number on this SDS or your poison center or doctor.

Inhalation : Remove person to fresh air. No known significant effects. Seek medical attention for any signs of wheezing and/or breathing difficulties. For additional advice call the medical emergency number on this SDS or your poison center or medical provider.

Skin contact : Heated material can cause thermal burns. In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention immediately.

Ingestion : Heated material can cause thermal burns. Nitrate based product. May be irritating to mouth, throat and stomach. May cause methemoglobinemia (a condition that interferes with the oxygen-carrying capacity of the blood) if ingested in large quantities or over a prolonged period of time. Oral exposures: if the affected person requires CPR, avoid mouth to mouth contact. Do not induce vomiting. If vomiting occurs, attempt to keep head lower than chest so that vomit does not enter the lungs. Wash (decontaminate) face and mouth with water to remove visible material. If the exposed person is conscious and can swallow, give 1-2 sips of water. Do not give anything else by mouth. Loosen tight clothing such as collar, tie, belt or waistband to prevent any breathing restrictions. Call for emergency transportation to a hospital if the exposed person feels sick or has breathing difficulties, or a large amount is suspected ingested. For additional advice, call the medical emergency number on this SDS or your poison center or doctor.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes thermal burns. Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes thermal burns.

Ingestion : Heated material can cause thermal burns. May be irritating to the digestive tract. May cause nausea, vomiting, diarrhea, and abdominal pain. May cause methemoglobinemia (a condition that interferes with the oxygen-carrying capacity of the blood) if ingested in large quantities or over a prolonged period of time. Persons with methemoglobinemia may have blue tinge color to lips, nails, and skin. Also they may have shortness of breath or trouble breathing. Persons more susceptible to methemoglobinemia include: very young (less than 3 months), the elderly, those with chronic obstructive pulmonary disease (COPD), anemia, coronary artery disease, recent surgery or infection, and those with a genetic deficiency of G-6-PD.

Over-exposure signs/symptoms

Eye contact : Causes thermal burns. Adverse symptoms may include the following:
pain or irritation
watering
redness
Permanent vision changes, loss of vision or total blindness. The full extent of damage to the eyes may not be known for 1 week after injury.

Inhalation : The substance will not burn. Undergoes thermal decomposition at elevated temperatures to release toxic and flammable gases. Adverse symptoms may include the following:
headache
respiratory tract irritation
coughing

Skin contact : Heated material can cause thermal burns. Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Section 4. First-aid measures

Ingestion : Heated material can cause thermal burns. Over-exposure by ingestion is unlikely under normal working conditions. Adverse symptoms may include the following:
nausea or vomiting
stomach pains
diarrhea
Methemoglobinemia (see Acute Health Effects)
difficulty swallowing

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products (carbon monoxide, carbon dioxide, nitrogen oxides) in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for up to 72 hours. In cases of suspected methemoglobinemia, monitor methemoglobin blood levels. Treatment is supportive; methylene blue may be indicated based on patient severity. 24 Hr Medical Emergency telephone number for professional support - From Canada or the U.S., English: 1-303-389-1653; French or Spanish: 1-303-389-1654.

Specific treatments : Call the medical emergency number on this SDS or your poison center or doctor immediately if large quantities have been ingested. In cases of suspected methemoglobinemia, methylene blue may be indicated based on patient severity.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. Mouth-to-mouth resuscitation of oral exposure patients is not recommended. First-aiders with contaminated clothing should be properly decontaminated.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : The product acts as an oxidizing agent, and supports combustion by liberating oxygen even if smothered. Evacuate area and fight fire remotely due to the risk of explosion. Flood fire area with water from a distance.

Unsuitable extinguishing media : Do not attempt to smother the fire. The product acts as an oxidizing agent, and supports combustion by liberating oxygen even if smothered. Do not use dry chemical, CO_2 or halon.

Specific hazards arising from the chemical : Molten ammonium nitrate presents an elevated risk of explosion if heated under confinement, if impacted by falling debris, or if contaminated by incompatible substances or organic matter including wood, asphalt, or other structural construction materials. May intensify fire; oxidizer.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
Ammonia
nitrogen oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons at least 800 meters (1/2 mile) from the vicinity of the incident if there is a fire. Assign emergency response personnel to guard the exclusion perimeter in all directions from the incident site.

If responding to a fire and the structure or vehicle is significantly involved, set up and use unmanned hose holders or monitor nozzles. Emergency responders should control remote firefighting apparatus from a location offering protection against possible explosion. Maintain the maximum possible distance from the fire consistent with the use of fire-fighting equipment. Apply flooding quantities of water to the ammonium nitrate until the fire is out, to cool the product and reduce risk of deflagration.

If safe to do so, ventilate the structure to minimize heat and pressure. Move containers from fire area if this can be done without risk. If safe firefighting is impossible, withdraw from area and let the fire burn.

Section 5. Fire-fighting measures

Refer to the NFPA 400 Hazardous Materials Code Annex E for further information on the safe handling of ammonium nitrate and suggested firefighting procedures.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : Oxidizing material.
Fight fire from protected location or maximum possible distance.
Contain and collect the water used to fight the fire for later treatment and disposal.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". Refer to NFPA 400 Hazardous Materials Code for further information on the safe storage and handling of hazardous materials. Refer to Emergency Response Guidebook, Guide 140 for further information regarding spill control and Isolation/Protective Action Distances Guidelines.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Allow to cool and solidify. Inform the relevant authorities if the product has caused adverse impacts (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Put on appropriate personal protective equipment (see Section 8). Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Allow to cool and solidify. Use appropriate tools to transfer the spilled solid to a convenient waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Put on appropriate personal protective equipment (see Section 8). Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Allow to cool and solidify.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from clothing, incompatible materials and combustible materials. Keep away from heat. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Separate from reducing agents and combustible materials. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. May be incompatible with some materials of construction. Contact your sales representative or a metallurgical specialist to ensure compatability with your equipment.

Construction of storage tanks and associated lines should be of 304L stainless steel, vented against pressure build up, and protected from corrosion and physical damage. Ensure insulation of tanks and handling components is mineral based and non-combustible. Ensure that ammonium nitrate solution pumps are protected against loss of flow or deadheading, and are thermally protected against exceeding a temperature of 150 deg C (325 deg F). Also ensure that heat traced piping systems, do not exceed these limits. Maintain storage temperatures at no greater than 20 deg C. above the crystallization temperature of the solution. Ensure that pH while in storage is maintained at greater than 4.5 measured using a 1 in 10 dilution of the hot ammonium nitrate solution in water. Guard against product contamination in any form or contact with incompatible materials. Refer to NFPA 400 Hazardous Materials Code for further information on the safe storage and handling of hazardous materials. Ensure compliance with OSHA 29CFR1910.109 requirements.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Canadian Regulations Ammonium nitrate - solid	**CA Alberta Provincial:** Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 10 mg/m³; Respirable fraction: 3 mg/m³.
U.S. Federal Regulations Ammonium nitrate (solid)	**OSHA (United States):** Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m³; Respirable fraction: 5 mg/m³.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Do not ingest. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection:
face shield
chemical splash goggles.

Section 8. Exposure controls/personal protection

Skin protection

Hand protection : When handling hot material, wear heat-resistant protective gloves that are able to withstand the temperature of molten product. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Contact your personal protective equipment manufacturer to verify the compatibility of the equipment for the intended purpose.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When handling hot material, wear heat-resistant protective gloves, clothing and face shield that are able to withstand the temperature of the molten product. Wear suitable coveralls capable of preventing significant penetration of the substance. Contact your personal protective equipment manufacturer to verify the compatibility of the equipment for the intended purpose.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Impervious rubber safety boots.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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. For U.S. work sites where respiratory protection is required, ensure that a respiratory protection program meeting 29 CFR 1910.134 requirements is in place.

Thermal hazards : Hot liquid. When handling hot material, wear heat-resistant protective gloves, clothing and face shield that are able to withstand the temperature of the molten product.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Hazy or Colorless.

Odor : Odorless or Ammoniacal.

Odor threshold : Not available.

pH : 5 to 7

Melting point : Variable. 58 to 71°C (136.4 to 160°F)

Boiling point : Not available.

Flash point : Not applicable.

Evaporation rate : No results available.

Flammability (solid, gas) : May intensify fire; oxidizer.

Lower and upper explosive (flammable) limits : Not applicable.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.36 - 1.39
Bulk density: 81% - 11.33 lbs/gal@ 158°F; 83% - 11.58 lbs/gal @175°F

Solubility : Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : >210°C (>410°F)

Section 9. Physical and chemical properties

Viscosity : Variable, depending on temperature.

Section 10. Stability and reactivity

Reactivity : The pure product is stable at normal storage temperatures and pressures. May react explosively when mixed with chlorinated materials such as hypochlorites. May react explosively even in the absence of air at elevated pressure and/or temperature. Reactive or incompatible with the following materials:
combustible materials
reducing materials
metal powders
halogenated compounds

Chemical stability : The product is stable.

Possibility of hazardous reactions : Hazardous reactions or instability may occur under certain conditions of storage or use.
Conditions may include the following:
contact with combustible materials
li:o934:7sn: < 4.5 pH value of a 10 % solution or suspension in demineralized water
heating under confinement or pressure build-up
Reactions may include the following:
risk of causing or intensifying fire
risk of violent reaction or risk of explosion with or without contact with air

Conditions to avoid : Prevent product contamination. Avoid contamination by any source including metals, dust and organic materials. Avoid high temperatures in combination with high pressures.

Incompatible materials : Reactive or incompatible with the following materials:
combustible materials
reducing materials
halogenated compounds
metal powders

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

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ammonium nitrate	LD50 Oral	Rat	2217 mg/kg	
	LD50 Oral	Rat - Male, Female	2950 mg/kg	-
-	LD50 Dermal	Rat - Male, Female	>5000 mg/kg	-

Conclusion/Summary : Very low toxicity to humans or animals. Effects are not sufficient for classification as hazardous.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ammonium nitrate	Skin	Rabbit	0	-	72 hours
	Eyes - Edema of the conjunctivae	Rabbit	3	-	3 days

Conclusion/Summary

Section 11. Toxicological information

Skin : Non-irritating to the skin.

Eyes : Irritating to the eyes.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Ammonium nitrate	Skin	Mouse	Not sensitizing

Conclusion/Summary

Skin : Non-sensitizer.

Respiratory : Non-sensitizer.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Ammonium nitrate	OECD 471 Bacterial Reverse Mutation Test OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Bacteria Experiment: In vitro Subject: Mammalian-Animal	Negative Negative

Conclusion/Summary : No mutagenic effect.

Carcinogenicity

Not available.

Conclusion/Summary : Potential for nitrosamine formation if ingested. Do not ingest.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Ammonium nitrate	Negative	Negative	Negative	Rat - Male, Female	Oral: 1500 mg/kg	53 days; 7 days per week

Conclusion/Summary : Not considered to be toxic to the reproductive system.

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Ammonium nitrate	Negative - Oral	Rat - Female	1500 mg/kg	53 days

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes thermal burns. Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes thermal burns.

Section 11. Toxicological information

Ingestion : Heated material can cause thermal burns. May be irritating to the digestive tract. May cause nausea, vomiting, diarrhea, and abdominal pain. May cause methemoglobinemia (a condition that interferes with the oxygen-carrying capacity of the blood) if ingested in large quantities or over a prolonged period of time. Persons with methemoglobinemia may have blue tinge color to lips, nails, and skin. Also they may have shortness of breath or trouble breathing. Persons more susceptible to methemoglobinemia include: very young (less than 3 months), the elderly, those with chronic obstructive pulmonary disease (COPD), anemia, coronary artery disease, recent surgery or infection, and those with a genetic deficiency of G-6-PD.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Causes thermal burns. Adverse symptoms may include the following:
pain or irritation
watering
redness
Permanent vision changes, loss of vision or total blindness. The full extent of damage to the eyes may not be known for 1 week after injury.

Inhalation : The substance will not burn. Undergoes thermal decomposition at elevated temperatures to release toxic and flammable gases. Adverse symptoms may include the following:
headache
respiratory tract irritation
coughing

Skin contact : Heated material can cause thermal burns. Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Heated material can cause thermal burns. Over-exposure by ingestion is unlikely under normal working conditions. Adverse symptoms may include the following:
nausea or vomiting
stomach pains
diarrhea
Methemoglobinemia (see Acute Health Effects)
difficulty swallowing

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : See above.

Potential delayed effects : See above.

Long term exposure

Potential immediate effects : See above.

Potential delayed effects : See below.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : Potential for nitrosamine formation if ingested. Do not ingest.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Ammonium nitrate -	Chronic NOEC 6 to 12 mg/l Fresh water NOEC >1700 mg/l Marine water Acute EC50 490 mg/l Fresh water Acute LC50 447 mg/l Fresh water	Crustaceans - Cladocera Algae Daphnia Fish	21 days 10 days 48 hours 48 hours

Conclusion/Summary : May be harmful to the environment if released in large quantities. Excessive nutrient runoff to a body of water may result in eutrophication.

Persistence and degradability

Conclusion/Summary : Not persistent. Readily biodegradable

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not applicable. Inorganic salt. Bioaccumulative potential - low

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty containers or liners may retain some product residues.

Section 14. Transport information

	TDG Classification	DOT Classification	Mexico Classification	IMDG	IATA
UN number	UN2426	UN2426	UN2426	UN2426	UN2426
UN proper shipping name	Ammonium nitrate, liquid	Ammonium nitrate, liquid	Ammonium nitrate, liquid	Ammonium nitrate, liquid	Ammonium nitrate, liquid
Transport hazard class(es)	5.1 	5.1 	5.1 	5.1 	- 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

Section 14. Transport information

Additional information	**Explosive Limit and Limited Quantity Index** 0 **ERAP Index** 1000 **Passenger Carrying Vessel Index** Forbidden **Passenger Carrying Road or Rail Index** Forbidden Classification per the current revision, Transportation of Dangerous Goods Regulation, Part 2, Sec 2.3.	**Packaging instruction** **Passenger aircraft** Quantity limitation: Forbidden. **Cargo aircraft** Quantity limitation: Forbidden. **Special provisions** B5, T7	**Special provisions** T7, TP1, TP16, TP17	**Emergency schedules (EmS)** F-H, S-Q **Special provisions** 252, 942, TP1, T7 , TP16, TP17	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Ammonium nitrate, liquid (hot concentrated solution)

Pollution category : Not a pollutant.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : Total of ammonia (NH3 — CAS RN 7664-41-7) and the ammonium ion (NH4+ — CAS RN 14798-03-9) in solution, expressed as ammonia.

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

Section 15. Regulatory information

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.

China : All components are listed or exempted.

Europe : All components are listed or exempted.

Japan : All components are listed or exempted.

Malaysia : All components are listed or exempted.

New Zealand : All components are listed or exempted.

Philippines : All components are listed or exempted.

Republic of Korea : All components are listed or exempted.

Taiwan : All components are listed or exempted.

Turkey : Not determined.

U.S. Federal Regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

TSCA 8(b) Active inventory: **TSCA 8(b) Active inventory:** All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304 Composition/information on ingredients

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard.
Ammonium nitrate	80 - 83	Yes.	No.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Ammonium Nitrate, Liquid	6484-52-2	80-83
Supplier notification	Ammonium Nitrate, Liquid	6484-52-2	80-83

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: Ammonium nitrate

Section 15. Regulatory information

New York : None of the components are listed.

New Jersey : The following components are listed: Ammonium nitrate; Nitric acid ammonium salt.

Pennsylvania : The following components are listed: Nitric acid ammonium salt.

California Prop. 65 : This product, as manufactured, does NOT contain any substance in concentrations known to the state of California to cause cancer, birth defects or other reproductive harm. Nutrien cannot guarantee the downstream compliance of any product once out of Nutrien custody.

Section 16. Other information

History

Date of issue/Date of revision : 3/30/2021

Date of previous issue : 3/19/2019

Version : 3.1

Indicates information that has changed from previously issued version.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
HPR = Hazardous Products Regulations

Procedure used to derive the classification

Classification	Justification
OXIDIZING LIQUIDS - Category 3	Weight of evidence
EYE IRRITATION - Category 2A	Weight of evidence

References : Transportation of Dangerous Goods Act and Clear Language Regulations, current edition at time of SDS preparation, Transport Canada;
Hazardous Products Act and Regulations, current revision at time of SDS preparation, Health Canada;
Domestic Substances List, current revision at time of SDS preparation, Environment Canada;
29 CFR Part 1910, current revision at time of SDS preparation, U.S. Occupational Safety and Health Administration;
40 CFR Parts 1-799, current revision at time of SDS preparation, U.S. Environmental Protection Agency;
49 CFR Parts 1-199, current revision at time of SDS preparation, U.S. Department of Transport;
Mexican Official Standard NOM-018-STPS-2015, Harmonised System for the Identification and Communication of Hazards and Risks by Hazardous Chemicals in the Workplace;
NORMA Oficial Mexicana NOM-010-STPS-2014, Agentes químicos contaminantes del ambiente laboral-Reconocimiento, evaluación y control.
Mexican Official Standard NOM-002-SCT / 2011, List of the most commonly transported hazardous substances and materials;
Threshold Limit Values for Chemical Substances, current edition at time of SDS preparation, American Conference of Governmental Industrial Hygienists;
NFPA 400, National Fire Codes, National Fire Protection Association, current edition at time of SDS preparation;
NFPA 704, National Fire Codes, National Fire Protection Association, current edition at time of SDS preparation;

Section 16. Other information

Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers;
ERG 2016, Emergency Response Guidebook, U.S. Department of Transport, Transport Canada, and the Secretariat of Transportation and Communications of Mexico
Hazardous Substances Data Bank, current revision at time of SDS preparation, National Library of Medicine, Bethesda, Maryland
Integrated Risk Information System, current revision at time of SDS preparation, U. S. Environmental Protection Agency, Washington, D.C.
Pocket Guide to Chemical Hazards, current revision at time of SDS preparation, National Institute for Occupational Safety and Health, Cincinnati, Ohio ;
Agency for Toxic Substances and Disease Registry Databank, current revision at time of SDS preparation, U.S. Department of Health and Human Services, Atlanta, Georgia
National Toxicology Program, Report on Carcinogens, Division of the National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina.
Registry of Toxic Effects of Chemical Substances. National Institute for Occupational Safety and Health, Cincinnati, Ohio
California Code of Regulations, Title 27, Div 4, Chapter 1, Proposition 65 Aug 30, 2018 rev and current updates
The Fertilizer Institute, Product Toxicology Testing Program Results, TFI, Washington , D.C., 2003

Notice to reader

Supply chain partners must ensure they pass this SDS, and all other relevant safety information to their customers.

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