KOCH FERTILIZER CANADA, ULC

SAFETY DATA SHEET

1. Identification

Product identifier **Ammonium Nitrate Solution**

Other means of identification

Product code KFC_ANS _US_EN

Synonyms Ammonium Nitrate Liquor, AN Solution; AN Liquor

Recommended use Fertilizer. Industrial use.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Koch Fertilizer Canada ULC
1400 17th Street East
Brandon, MB
R7A 7C4, Canada
204-729-2900

Emergency For Chemical Emergency
Call CHEMTREC day or night
USA/Canada - 1.800.424.9300
Mexico - 1.800.681.9531
Outside USA/Canada - 1.703.527.3887
(collect calls accepted)

2. Hazard(s) identification

Physical hazards	Oxidizing liquids	Category 3
Health hazards	Serious eye damage/eye irritation	Category 2A
OSHA defined hazards	Not classified.	

Label elements

Signal word Warning

Hazard statement May intensify fire; oxidizer. Causes serious eye irritation.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wash 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 advice/attention.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Ammonium nitrate	6484-52-2	80 - 85

Water	7732-18-5	15 - 20

Composition comments

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.

4. First-aid measures

Inhalation

Move person to fresh air. If the affected person is not breathing, apply artificial respiration. Get medical attention immediately.

Skin contact

Wash contact areas with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists after washing.

Ingestion

Rinse mouth thoroughly. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing.
Skin contact: Mild skin irritation.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media

Flood fire area with water from a distance.

Unsuitable extinguishing media

Dry chemical. Carbon dioxide (CO2).

Specific hazards arising from the chemical

Oxidizer - contact with other material may cause fire. The product itself does not burn. Fire or high temperatures may cause explosive decomposition, especially if confined.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Fire fighting equipment/instructions

Be aware of danger of explosion. Do not attempt to smother the fire. Evacuate area and fight fire from a safe distance. Wear self-contained breathing apparatus and protective clothing. In the event of fire and/or explosion do not breathe fumes. Containers close to fire should be removed or cooled with water. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

General fire hazards

Not itself combustible but assists fire in burning materials. The product does not flash. Rate of burning: attempts to smother a fire involving this product will be ineffective as it is its own oxygen source.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid inhalation of vapors and spray mist and contact with skin and eyes. Wear suitable protective clothing. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers or watercourses.

7. Handling and storage

Precautions for safe handling

Avoid inhalation of vapors. Avoid contact with skin and eyes. Use only with adequate ventilation. Keep away from clothing and other combustible materials. Keep the workplace clean.

Conditions for safe storage, including any incompatibilities	Store in a well-ventilated place. Store in a tightly closed container. Keep at temperature not exceeding 160 °C. Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	Follow standard monitoring procedures.
Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Provide eyewash station. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mist.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear approved safety glasses or goggles.
Skin protection	
Hand protection	Chemical resistant gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
Other	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear air supplied respiratory protection if exposure concentrations are unknown. In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134 and ANSI Z88.2.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Clear to hazy liquid.
Physical state	Liquid.
Form	Molten liquid.
Color	Opaque white to off-white.
Odor	Faint. Ammoniacal.
Odor threshold	Not available.
pH	5 - 7
Melting point/freezing point	159.8 - 174.2 °F (71 - 79 °C)
Initial boiling point and boiling range	269.6 °F (132 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.

Solubility(ies)

Solubility (water)	100 % Disperses in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.

Decomposition temperature	410 °F (210 °C)
Viscosity	Not available.
Other information	
Explosive properties	Oxidising material.
Molecular formula	NH4.N-O3
Molecular weight	80.04
Oxidizing properties	Oxidiser. May intensify fire.

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	May explode under confinement and high temperature but not readily detonated. When molten may decompose violently due to shock or pressure.
Possibility of hazardous reactions	Reacts with organic materials and reducing agents.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Protect against direct sunlight. Heat may cause the containers to explode. Keep away from combustible material. Keep away from incompatible material. Avoid temperatures above 160 °C.
Incompatible materials	Combustible material. Strong reducing agents. Tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, any bromate, chlorate, chlorite, hypochlorite, perchlorate, chloroisocyanurate, any inorganic nitrite, and metal powders.
Hazardous decomposition products	Nitrogen oxides. Ammonia.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Vapors and spray mist may irritate throat and respiratory system and cause coughing.
Skin contact	Prolonged or repeated skin contact may cause irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Ingestion may cause irritation and malaise.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing. Skin contact: Mild skin irritation.

Information on toxicological effects

Acute toxicity	May cause discomfort if swallowed.

Components	Species	Test Results
Ammonium nitrate (CAS 6484-52-2)		
Acute		
Inhalation		
LC50	Rat	> 88.8 mg/l, 4 Hours
Oral		
LD50	Rat	4500 mg/kg

Skin corrosion/irritation	Prolonged exposure may cause skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Based on available data, the classification criteria are not met.
Skin sensitization	Not a skin sensitizer.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Not classified.
Chronic effects	Prolonged exposure may cause chronic effects.
Further information	No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	This product is water soluble and may disperse in soil.
Other adverse effects	No data available.

13. Disposal considerations

Disposal instructions	Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN2426
UN proper shipping name	Ammonium nitrate, liquid
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
Packing group	Not applicable.
Special precautions for user	Not available.
Special provisions	B5, T7
Packaging exceptions	None
Packaging non bulk	None
Packaging bulk	243

IATA

UN number	UN2426
UN proper shipping name	Ammonium nitrate, liquid
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	5L
Special precautions for user	Not available.

IMDG

UN number	UN2426
UN proper shipping name	AMMONIUM NITRATE, LIQUID
Transport hazard class(es)	
Class	5.1

Subsidiary risk -

Packing group Not applicable.

Environmental hazards

Marine pollutant No.

EmS F-H, S-Q

Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - Yes

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Ammonium nitrate	6484-52-2	80 - 85

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Ammonium nitrate (CAS 6484-52-2)

US. New Jersey Worker and Community Right-to-Know Act

Ammonium nitrate (CAS 6484-52-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Ammonium nitrate (CAS 6484-52-2)

US. Rhode Island RTK

Ammonium nitrate (CAS 6484-52-2)

US. California Proposition 65

Not Listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 15-September-2015

Revision date -

Version # 01

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
Health: 2
Flammability: 0
Physical hazard: 3

List of abbreviations

EC50: Effective Concentration, 50%.
LC50: Lethal Concentration, 50%.

References
EPA: Acquire database
HSDB® - Hazardous Substances Data Bank

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