

KOCH FERTILIZER TRADING Sàrl

1. Product and Company Identification

Material name Urea Ammonium Nitrate Solution
Version # 01
Revision date 04-18-2012
CAS # Mixture
MSDS Number KFT_UAN_OSHA_EN
Product use Fertilizer
Synonym(s) UAN 28% Nitrogen, UAN 30% Nitrogen, UAN 32% Nitrogen, UN-28, UN-30, UN-32, URAN, TRI-N-28, TRI-N-30, TRI-N-32, STCC 2871315, UAN
Manufacturer/Supplier Koch Fertilizer Trading Sarl
 20, route de Pre-Bois
 Case Postale 1843
 Geneva, Switzerland
 +11 41 227 37 4223 or +1 316 828 7672
Emergency For Chemical Emergency
 Call CHEMTREC day or night
 1.800.424.9300
 Outside USA/Canada
 1.703.527.3887
 (collect calls accepted)

2. Hazards Identification

Physical state Liquid.
Appearance Colorless liquid.
Emergency overview WARNING
 Causes skin, eye and respiratory tract irritation.
 When water evaporates from this product, residues may contain ammonium nitrate. Solid ammonium nitrate, when sensitized during decomposition, may become unstable and explosive.
OSHA regulatory status This product is hazardous according to OSHA 29 CFR 1910.1200.
Potential health effects
Routes of exposure Eye contact. Skin contact. Inhalation.
Eyes Causes eye irritation. Exposed individuals may experience eye tearing, redness, and discomfort.
Skin Causes skin irritation.
Inhalation Causes respiratory tract irritation.
Ingestion If ingested it may cause the formation of methaemoglobin.
Signs and symptoms Symptoms can include irritation, redness, scratching of the cornea, and tearing.
Potential environmental effects 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.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Ammonium nitrate	6484-52-2	35 - 55
Urea	57-13-6	25 - 40
Water	7732-18-5	15 - 32
Free Ammonia	7664-41-7	0.02 - 0.15

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

First aid procedures

Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.
Skin contact	Wash contact areas with soap and water. Get medical attention if irritation develops and persists.
Inhalation	Move to fresh air. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly. Get medical attention if any discomfort continues.

Notes to physician Treat symptomatically.

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

5. Fire Fighting Measures

Flammable properties Slight fire hazard. When water evaporates from this product residues may contain ammonium nitrate, and solid ammonium nitrate when sensitized during decomposition may become unstable and explosive.

Extinguishing media

Suitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media None known.

Protection of firefighters

Specific hazards arising from the chemical Slight fire hazard. When water evaporates from this product residues may contain ammonium nitrate, and solid ammonium nitrate when sensitized during decomposition may become unstable and explosive.

Protective equipment and precautions for firefighters Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Specific methods Move containers from fire area if you can do so without risk.

Hazardous combustion products Carbon oxides. Nitrogen Oxides. Cyanide compounds. Ammonia. Biuret.

6. Accidental Release Measures

Personal precautions Avoid inhalation of vapors/spray and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing. Use personal protection recommended in Section 8 of the MSDS.

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.

Methods for containment Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up Absorb spillage with suitable absorbent material. After removal flush contaminated area thoroughly with water.

Never return spills to original containers for re-use.

Other information Absorb small leaks or spills with sponge, mop up large spills with plenty of soap and water. Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling Avoid inhalation of vapors/spray and contact with skin and eyes. Wear approved safety goggles. Use only with adequate ventilation. Keep the workplace clean.

Storage Store in a well-ventilated place. Store in a cool, dry place. Keep container tightly closed. Store away from incompatible materials.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Free Ammonia (7664-41-7)	STEL	35 ppm
	TWA	25 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Free Ammonia (7664-41-7)	PEL	35 mg/m ³ 50 ppm

Engineering controls	Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors.
Personal protective equipment	
Eye / face protection	Wear approved safety glasses or goggles.
Skin protection	Risk of contact: Wear appropriate clothing to prevent any possibility of 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. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment.
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 & Chemical Properties

Appearance	Colorless liquid.
Color	Colorless.
Odor	Slight ammonia.
Odor threshold	Not available.
Physical state	Liquid.
Form	Liquid.
pH	6.8 - 8.5
Melting point	Not available.
Freezing point	Not available.
Boiling point	225 °F (107.2 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	1.05 - 1.35 @ 30 °C
Solubility (water)	100%
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal temperature conditions and recommended use.
Conditions to avoid	Contact with incompatible materials. Heat, sparks, flames, elevated temperatures. UAN will form urea nitrate when mixed with nitric acid at low pH. Urea nitrate may become unstable and/or explosive under certain conditions.
Incompatible materials	Reacts violently with strong oxidants, nitrites, inorganic chlorides, chlorites and perchlorates causing fire and explosion hazard.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides (NO _x). Ammonia. Biuret. Cyanide compounds.

Possibility of hazardous reactions

Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components

Test Results

Urea (57-13-6)

Acute Oral LD50 Rat: 8471 mg/kg

Ammonium nitrate (6484-52-2)

Acute Inhalation LC50 Rat: > 88.8 mg/l 4 Hours

Acute Oral LD50 Rat: 4500 mg/kg

Acute effects

Ingestion may cause irritation and malaise. Causes skin, eye and respiratory tract irritation.

Local effects

Causes redness and pain.

Sensitization

Not a skin sensitizer.

Chronic effects

No data available.

Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Epidemiology

Not available.

Mutagenicity

No data available.

Neurological effects

Not available.

Reproductive effects

No data available.

Teratogenicity

Not available.

Symptoms and target organs

Symptoms can include irritation, redness, scratching of the cornea, and tearing.

Further information

No other specific acute or chronic health impact noted.

12. Ecological Information

Ecotoxicological data

Components

Test Results

Urea (57-13-6)

EC50 Water flea (Daphnia magna): 3910 mg/l 48 hours

Free Ammonia (7664-41-7)

LC50 Carp (Hypophthalmichthys nobilis): 0.3 mg/l 96 hours

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

Not available.

Bioaccumulation / Accumulation

No data available.

Mobility in environmental media

The product is water soluble and may spread in water systems.

Partition coefficient (n-octanol/water)

Not available.

13. Disposal Considerations

Disposal instructions

Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

Waste from residues / unused products

Dispose of in accordance with local regulations.

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory Information**US federal regulations**

This product is hazardous according to OSHA 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Spill: Reportable quantity

Free Ammonia (CAS 7664-41-7) 100 LBS

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold Planning Quantity

Free Ammonia (CAS 7664-41-7) 500 LBS

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Ammonium nitrate (CAS 6484-52-2) 1.0 %

Free Ammonia (CAS 7664-41-7) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ammonium nitrate (CAS 6484-52-2) Listed.

Free Ammonia (CAS 7664-41-7) Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

Free Ammonia: 100

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance (40 CFR 355, Appendix A)
No

Section 311/312 (40 CFR 370)
Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

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 - California Hazardous Substances (Director's): Listed substance

Free Ammonia (CAS 7664-41-7) Listed.

US - Massachusetts RTK - Substance: Listed substance

Ammonium nitrate (CAS 6484-52-2) Listed.

Free Ammonia (CAS 7664-41-7) Listed.

US - New Jersey Community RTK (EHS Survey): Reportable threshold

Ammonium nitrate (CAS 6484-52-2) 500 LBS

Free Ammonia (CAS 7664-41-7) 500 LBS

US - New Jersey RTK - Substances: Listed substance

Free Ammonia (CAS 7664-41-7) Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Ammonium nitrate (CAS 6484-52-2) Listed.

Free Ammonia (CAS 7664-41-7) Listed.

16. Other Information

Recommended restrictions Use in accordance with supplier's recommendations.
Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings Health: 2
Flammability: 1
Physical hazard: 0

NFPA ratings Health: 2
Flammability: 1
Instability: 0

Disclaimer NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet (SDS) and was prepared pursuant to Government regulation(s) that identify specific types of information to be provided. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product specifically should advise all of their employees, agents, contractors and customers who will use the product of this (M)SDS.

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