



METHANOL HOLDINGS (TRINIDAD) LIMITED

SAFETY DATA SHEET Urea-Ammonium Nitrate Solution 28, 30% and 32% Solution

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product name: Urea-Ammonium Nitrate Solution

Product code(s): Urea-Ammonium Nitrate Solution

Synonym(s): UAN, UAN Solution

REACH Registration Number: This product has been registered according to Regulation (EC) 1907/2006.

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

General use: Fertilizer

Uses advised against: No uses advised against

1.3 Details of the supplier and of the safety data sheet

Manufacturer/Distributor

Methanol Holdings (Trinidad) Limited
Atlantic Avenue, Point Lisas Industrial Estate
Point Lisas, Trinidad, West Indies
+1-868-636-2906/9

Non-Emergency Contact

North America: Helm Fertilizer Corporation, +1-813-621-8846
Europe: Helm Düngemittel GmbH, +49 40 2375-1628
Trinidad: Methanol Holdings (Trinidad) Limited +1-868-636-2906

1.4 Emergency telephone number

North America Chemtrec: +1-800-424-9300

Europe Giftinformationszentrum Nord: 011-49-551-19240

Trinidad Industrial Plant Services Limited: +1-868-636-1251

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Product definition: Mixture

Classification in accordance with 29 CFR 1910 (OSHA HCS) and Regulation EC No 1272/2008

Not a hazardous substance or mixture according to OSHA or to European Union Legislation

2.2 Label elements

Not a dangerous mixture according to GHS

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Repeated exposure may cause skin dryness and cracking

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

% by Weight	Ingredient	CAS Number	EC Number	Index Number	GHS Classification
30 - 50	Ammonium Nitrate	6484-52-2	229-347-8	-----	H272, H319
25 - 45	Urea	57-13-6	200-315-5	-----	-----

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.

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product vapor or mist causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. If unconscious, maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist, seek medical attention.

Eyes: Immediately flush eyes with large amounts of water or saline solution for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after first 2 minutes and continue rinsing. If irritation persists seek medical attention, preferably from an ophthalmologist.

Skin: Flush skin with large amounts of water while removing contaminated clothing. Wash the affected area with soap and water followed by thorough rinsing. Wash contaminated clothing and shoes before reuse. If irritation persists, seek medical attention.

Ingestion: Rinse mouth with water if the victim is conscious. Remove dentures, if present. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious or convulsing person. Do not leave the victim unattended. Seek medical attention or contact a Poison Center.



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4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: Causes eye irritation with redness, burning sensation, swelling and tearing.

Skin: May cause skin irritation with localized redness and discomfort. Chronic exposure may cause drying and cracking of the skin.

Inhalation: Inhalation of mist or vapor may be irritating to mucous membranes and to the respiratory system.

Ingestion: May cause irritation of the digestive tract with nausea, vomiting, abdominal pain and diarrhea. May be harmful if swallowed.

Chronic: None known

4.3 Indication of any immediate medical attention and special treatment needed

Advice to Doctor and Hospital Personnel: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishable media

Suitable methods of extinction: Use media such as water fog, water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable methods of extinction: None known

5.2 Special hazards arising from the substance or mixture

Closed containers may rupture due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

Explosion hazards: This material in sufficient quantity and reduced particle size is capable of creating a dust explosion. Risk of explosion is and solid ammonium nitrate when sensitized during decomposition may become unstable or explosive.

5.3 Advice for firefighters

Responders should stay upwind. Full protective equipment including self-contained breathing apparatus should be used (HAZMAT suits). Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. If possible, firefighters should control runoff water to prevent environmental contamination.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel from the hazard area. Wear appropriate protective clothing designated in Section 8.2. Ventilate the area.

Remove all sources of ignition. No smoking. Clean up spills immediately. Spills create a slip hazard.

6.2 Environmental precautions

Do not flush to sewer. Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways.

6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Cover with a large quantity of inert absorbent. Do not use combustible material such as sawdust. Collect product and place in an approved container for proper disposal. Observe possible material restrictions (Sections 7.2 and 10.5). Do not allow material or runoff from rinsing contaminated areas to enter storm drains and ditches which lead to waterways. Dispose of waste in accordance with national and local regulations. Clean contaminated area with soap and water.

6.4 Reference to other sections

For indications about waste treatment, see Section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling

Wear all appropriate personal protective equipment specified in Section 8.2. Do not get in eyes or on skin or clothing. Do not inhale mist or vapor. No smoking. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear an appropriate respirator. Wash contaminated clothing and shoes thoroughly before reuse.

Advice on protection against fire and explosion

Solution does not present a fire or explosion hazard. Refer to Section 5.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in dry, cool, well-ventilated areas away from incompatible materials (see Section 10.5), food and drink. Transfer only to approved containers having correct labeling. Keep containers tightly closed when not in use. Protect container against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Containers of this material are hazardous when empty as they retain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure value limits

CAS Number	Ingredient	OSHA	ACGIH	NIOSH
7664-41-7	Anhydrous Ammonia (free ammonia)	50 ppm; 35 mg/m ³ TWA	25 ppm; 17 mg/m ³ TWA 35 ppm; 24 mg/m ³ STEL	25 ppm; 17 mg/m ³ TWA 35 ppm; 24 mg/m ³ STEL 300 ppm IDHL

8.2 Exposure controls

Engineering measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking, smoking or using the lavatory.

Eye/face protection: Wear safety glasses with unperforated side shields or protective splash goggles during use.

Hand protection: Wear gloves recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

Skin protection: Wear protective clothing. Wear protective boots if the situation requires.

Respiratory protection: Always use an approved respirator when vapor/aerosols exceed exposure limit values. Where risk assessment shows air-purifying respirators are appropriate use a half-mask respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Follow OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Environmental exposure controls: Do not empty into drains.

PPE must not be considered a long-term solution to exposure control. PPE usage must be accompanied by employer programs to properly select, maintain, clean fit and use. Consult a competent industrial hygiene resource to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.



SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Clear, colorless liquid
Odor	Mild ammonia odor
Odor Threshold	No data available
Molecular Weight	Not applicable
Chemical Formula	Not applicable
pH	6.8 - 7.5
Freezing/Melting Point, Range	-27 °C (-16.6 °F)
Boiling Point	107 °C (224.6 °F)
Evaporation Rate	Not applicable
Flammability (solid, gas)	No data available
Flash Point	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Lower Explosive Limit (LEL)	Not applicable
Upper Explosive Limit (UEL)	Not applicable
Vapor Pressure	No data available
Vapor Density	No data available
Density	1.3 g/cc (10.85 lb/gal) @ 15 °C
Solubility in Water	Complete
Partition Coefficient: n-octanol/water	<1
Viscosity	No data available
Oxidizing Properties	Not applicable
Explosive Properties	Not applicable



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Explosive Properties
Volatiles by Volume @ 21° C

Not applicable
>67%

9.2 Other data

No data available

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

No hazardous reactions expected when this material is handled and stored as recommended.

10.2 Chemical stability

This product is stable under recommended storage conditions and handling.

10.3 Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4 Conditions to avoid

Temperature extremes; contact with incompatible materials

10.5 Incompatible materials

Reducing agents, strong acids and bases, metal powders, combustible materials, chromates, zinc, copper and copper alloys, chlorates

10.6 Hazardous decomposition products

Thermal decomposition products include carbon oxides, nitrogen oxides, ammonia, amines

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity

Ammonium nitrate: LD₅₀, rat - 2,950 mg/kg

Urea: LD₅₀, rat: 14,300 mg/kg

Acute inhalation toxicity

No data available

Acute dermal toxicity

No data available

Skin irritation

May cause skin irritation.

Eye irritation

Causes serious eye irritation.

Sensitization

No data available

Genotoxicity

No data available

Mutagenicity

No data available

Specific organ toxicity - single exposure

No data available

Specific organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Further information

No component of this product present at levels greater than or equal to the 0.1% threshold (de minimis) is identified as a probable, possible, potential or confirmed carcinogen by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity or teratogenicity of this product, nor is there any available data that indicates that it causes adverse developmental or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

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

12.2 Persistence and degradability

This material is expected to be readily biodegradable



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12.3 Bioaccumulation potential

This material is not expected to bioaccumulate

12.4 Mobility in soil

Mobility in soil is expected to be very high based.

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Other adverse effects

Additional ecological information

Do not allow material to run into surface waters, waste water or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Methods of disposal: The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste: UAN is not listed by the Federal EPA as a hazardous waste. Consult state/provincial and local environmental agencies for acceptable disposal methods. Recover product for use as fertilizers if possible.

SECTION 14 - TRANSPORT INFORMATION

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

NOT REGULATED FOR TRANSPORT

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for substance or mixture

U. S. Federal Regulations

OSHA Hazard Communication Standard: This material is not classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

OSHA Process Safety Management Standard: This product is not regulated under OSHA PSM Standard 29 CFR 1910.119.

EPA Risk Management Planning Standard: This product is not regulated under EPA RMP Standard (RMP) 40 CFR Part 68.

EPA Federal Insecticide, Fungicide and Rodenticide Act: This product is not a registered Pesticide under the FIFRA, 40 CFR Part 150.

Toxic Substance Control Act (TSCA) Inventory: All substances in this product are listed on the TSCA Inventory. This product is not subject to TSCA 12(b) Export Notification.

Drug Enforcement Administration (DEA) List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.4(f)(2) and Chemical Code Number
None listed

Drug Enforcement Administration (DEA) Lists 1 & 2, Exempt Chemical Mixtures (21 CFR 1310.12(c)) and Code Number: None listed

Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) Chemicals:

Ammonium nitrate (CAS #6484-52-2), with more than 0.2 percent combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance]

Superfund Amendments and Reauthorization Act (SARA)

SARA Section 311/312 Hazard Categories: None known

SARA 313 Information: None of the components of this product exceed the threshold (de minimis) reporting requirements of Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

SARA 302/304 Extremely Hazardous Substance: No components of the product exceed the threshold (de minimis) reporting levels established by of these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification: No components of the product exceed the threshold (de minimis) reporting levels established by of these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): This product contains no CERCLA reportable substances.

Clean Air Act (CAA)

This product does not contain any substances listed as Hazardous Air Pollutants (HAPs) designated in CAA Section 112(b).

This product does not contain any Class 1 Ozone depletors.

This product does not contain any Class 2 Ozone depletors.

Clean Water Act (CWA)

None of the chemicals in this product are listed as Hazardous Substances under the CWA.



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None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

This product contains no chemical(s) known to the state of California to cause cancer or other reproductive harm.

Other U.S. State Inventories

Ammonium Nitrate (CAS #6484-52-2) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: DE, MA, NJ, PA, RI.

Canada

WHMIS Hazard Classification: No data available

Canadian National Pollutant Release Inventory (NPRI): None of the ingredients are listed on the NPRI.

European Economic Community

WGK, Germany (Water danger/protection): 1 (low hazard to waters)

Global Chemical Inventory Lists

Country	Inventory Name	Inventory Listing*
Canada	Domestic Substance List (DSL)	Yes
Canada	Non-Domestic Substance List (NDSL)	No
Europe	Inventory of New and Existing Chemicals (EINECS)	Yes
United States	Toxic Substance Control Act (TSCA)	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*Yes - All components of this product are in compliance with the inventory requirements administered by the governing country.

No - One or more components of this product are not on the inventory or are exempt from listing.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

Health	2
Flammability	1
Physical Hazard	0
Personal Protection	C

C = safety glasses, gloves and an apron

HMIS Hazard Rating Legend

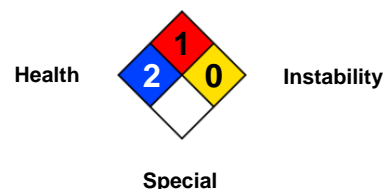
0 = Minimal 1 = Slight 2 = Moderate 3 = Serious
4 = Severe * = Chronic Health Hazard

NFPA Hazard Rating Legend

0 = Insignificant 1 = Slight 2 = Moderate
3 = High 4 = Extreme

National Fire Protection Association (NFPA)

Flammability



Full text of GHS Hazard Phrases referenced in Section 3 (not covered in Section 2).

H272 - May intensify fire; oxidizer

H319 - Causes serious eye irritation

Abbreviation Key

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	Accord Dangereux Routier (European regulations concerning the international transport of dangerous goods by road)
CAS	Chemical Abstract Services
CFR	Code of Federal Regulations
DOT	Department of Transportation
EC ₅₀	Half Maximal Effective Concentration
EMS Guide	Emergency Response Procedures for Ships Carrying Dangerous Goods
EPA	Environmental Protection Agency
ErC ₅₀	Reduction of Growth Rate
ERG	Emergency Response Guide Book
FDA	Food and Drug Administration
GHS	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
HCS	Hazard Communication Standard
IARC	International Agency for Research on Cancer



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IATA	International Air Transportation
IC₅₀	Half Maximal Inhibitory Concentration
ICAO	International Civil Aviation Organization
IDLH	Immediately Dangerous to Life and Health
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
LC₅₀	50% Lethal Concentration
LD₅₀	50% Lethal Dose
LD_{Lo}	Lowest Lethal Dose
mppcf	Millions of Particles Per Cubic Foot
NA	North America
NAERG	North American Emergency Response Guide Book
NIOSH	National Institute for Occupational Safety
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PBT	Persistent, Bioaccumulating and Toxic
PEL	Permissible Exposure Limit
PMCC	Pensky-Martens Closed Cup
ppm	Parts Per Million
RCRA	Resource Conservation and Recovery Act
RID	Dangerous Goods by Rail
RQ	Reportable Quantity
TCC/Tag	Tagliabue Closed Cup
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time-Weighted Average
UN	United Nations
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulating
WHMIS	Workplace Hazardous Materials Information System

The information and recommendations herein are taken from data contained in independent industry-recognized references and are believed to be accurate and represent the best information currently available to us. Methanol Holdings (Trinidad) Limited makes no representation or warranties, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Users should conduct their own investigations to determine the suitability of the information to their particular purpose. Accordingly, Methanol Holdings (Trinidad) Limited will not be responsible for loss or damages resulting from use of or reliance upon this information.

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