



# 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 codes(s):** Urea-Ammonium Nitrate Solution

**Synonyms:** 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 (Regulation (EC) No 1272/2008)**

Mixture is not classified as hazardous in accordance to Regulation 1272/2008 (CLP) as well as with Directive 1999/45/EC (DPD).

#### 2.2 Label Elements

**Labeling (Regulation (EC) No 1272/2008)**

**Hazard Symbol(s):** None allocated

**Signal Word:** None allocated

**Precautionary Statement(s):** None allocated

### SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Not applicable

#### 3.2 Mixtures

**Chemical characterization (preparation)**

% by Weight	Ingredient	CAS Number	EC Number	Index Number	EC Classification	GHS Classification
35 - 40	Ammonium nitrate	6484-52-2	229-347-8	-----	O, R8; Xi, R36	H272; H319

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

### SECTION 4 - FIRST AID MEASURES

#### 4.1 Description of first aid measures

In all cases of doubt, or when symptoms persist, seek medical attention.

**Inhalation:** If product spray 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. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist, seek medical attention immediately.

**Eyes:** Immediately flush eyes with large amounts of water for 15 minutes. Remove contact lenses if present after the first 5 minutes and continue rinsing, lifting upper and lower eyelids occasionally. Obtain immediate medical attention, preferably from an ophthalmologist.

**Skin:** Flush skin with large amounts of water while removing contaminated clothing. Wash affected area with soap and water. Wash contaminated clothing and shoes thoroughly before reuse. Seek prompt medical attention if irritation occurs or persists.



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**Ingestion:** Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. If conscious and alert, give 2 to 4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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

### Potential health symptoms and effects

**Eyes:** May cause eye irritation characterized by redness, burning sensation, tearing, swelling and inflammation.

**Skin:** May cause skin irritation. No known significant effects or critical hazards.

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

**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting 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/Physician 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

During a fire, irritating and highly toxic gases including ammonia, amines, carbon oxides and nitrogen oxides are generated by thermal decomposition or combustion. Symptoms of overexposure to these gases may not be apparent. Seek medical advice.

### 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 build-up and possible autoignition or explosion when exposed to extreme heat. If possible, firefighters should control run-off water to prevent environmental contamination.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate protective clothing designated in Section 8. Remove all sources of ignition. Ventilate the area. Keep unnecessary and unprotected personnel from entering the hazard area.

### 6.2 Environmental precautions

Do not flush to sewer. Avoid dispersal of spilled material or run-off 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 saw dust. Collect product using non-sparking tools and place in an approved container for proper disposal. Observe possible material restrictions (Sections 7.2 and 10.5). 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

Observe label precautions. Wear all appropriate protective equipment specified in Section 8. Keep containers closed when not in use.

#### Advice on protection against fire and explosion

Material does not burn.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep in cool, dry, ventilated storage areas in closed containers. Transfer only to approved containers having correct labeling. Containers that have been opened should be carefully resealed and kept upright to prevent leakage. 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

Contains no substances with occupational exposure values.



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## Predicted No Effect Concentration (PNEC) - Urea and Ammonium Nitrate

Environmental Protection Target	Urea	Ammonium Nitrate
Aqua - fresh water	0.047 mg/l	0.45 mg/l
Aqua - salt/marine water	0.047 mg/l	0.045 mg/l
Aqua - intermittent releases	No exposure expected	0.45 mg/l
Sediment	No exposure expected	No hazard identified
Soil	No exposure expected	No hazard identified
Sewage treatment plant	No exposure expected	18 mg/l
Food chain: oral (secondary poisoning)	No exposure expected	No exposure expected
Air	No exposure expected	No hazard identified

## Derived No Effect Level (DNEL) - Urea

Route	Acute - Workers	Acute - General Population	Long Term - Workers	Long Term - General Population
Oral	Not applicable	42 mg/kg bw/day	Not applicable	42 mg/kg bw/day
Dermal	580 mg/kg bw/day	580 mg/kg bw/day	580 mg/kg bw/day	580 mg/kg bw/day
Inhalation	292 mg/m3	125 mg/m3	292 mg/m3	125 mg/m3

No evidence of local effects is seen in any of the dermal studies performed with urea; there is no evidence of local effects from human studies or from experience of human exposure. Respiratory irritation is not predicted. DNELs for local effects are therefore, not relevant and are not calculated for urea.

## Derived No Effect Level (DNEL) - Ammonium Nitrate

Route	Workers	General Population
Oral*	Not applicable	12.8 mg/kg bw/day
Dermal*	21.3 mg/kg bw/day	12.8 mg/kg bw/day
Inhalation*	37.6 mg/m3	11.1 mg/m3

\* As an acute toxicity hazard leading to Classification and Labeling of the substance has not been identified, the long-term DNEL is considered sufficient to ensure that effects from acute exposure to the substance does not occur (in accordance with ECHA Guidance on information requirements and chemical safety assessment: Chapter R.8: B:Hazard Assessment, Draft new Chapter B.8 Scope of Exposure Assessment, March 2012).

## 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 or using the lavatory.

**Eye/face protection:** Wear protective chemical goggles and a face shield use. Refer to 29 CFR 1910.133, ANSI Z87.1 or European Standard EN 166.

**Hand Protection:** Wear gloves recommended by 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.

**Other protective equipment:** Protective clothing. Protective boots, if the situation requires.

**Respiratory Protection:** Always use an approved respirator when vapor/fumes/dust are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced 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).

**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

<b>Appearance</b>	Clear, colorless liquid
<b>Odor</b>	Mild ammonia odor
<b>Odor Threshold</b>	No data available
<b>Molecular Weight</b>	Not applicable
<b>Chemical Formula</b>	Not applicable
<b>pH</b>	6.8 - 7.5



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<b>Freezing/Melting Point, Range</b>	-27°C (-16.6°F)
<b>Boiling Point</b>	107°C (224.6°F)
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid, gas)</b>	No data available
<b>Flash Point</b>	No data available
<b>Autoignition Temperature</b>	Not applicable
<b>Decomposition Temperature</b>	No data available
<b>Lower Explosive Limit (LEL)</b>	Not applicable
<b>Upper Explosive Limit (UEL)</b>	Not applicable
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Density</b>	1.3 g/cc (10.85 lb/gal) @ 15°C
<b>Solubility in Water</b>	Complete
<b>Partition Coefficient: n-octanol/water</b>	<1
<b>Viscosity</b>	No data available
<b>Volatiles by Volume @ 70° F</b>	Not determined

## 9.2 Other data

No data available

## SECTION 10 - STABILITY AND REACTIVITY

### 10.1 Reactivity

No special reactivity has been reported.  
Hazardous polymerization will not occur.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored as recommended. Refer to Section 7.

### 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 mild skin irritation. Prolonged and repeated contact may cause dermatitis.

#### Eye irritation

May cause 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



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## 11.2 Further information

### Chronic/Carcinogenicity:

The components in this product are not listed as carcinogens by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity and/or teratogenicity of this material, nor is there any available data that indicates it causes adverse developmental and/or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12 - ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### Aquatic Toxicity: Sodium Nitrate

Acute and prolonged toxicity to fish:	LC50 - Cyprinus carpio (Carp), 48 h: 74 mg/l (IUCLID)
Toxicity to aquatic invertebrates:	EC50 - Daphnia magna (Water flea): 555 mg/l (IUCLID)
Toxicity to aquatic plants:	IC50 - Scenedesmus quadricauda (Green algae): 83 mg/l (IUCLID)
Toxicity to micro-organisms:	LC50 - Oncorhynchus kisutch (Coho salmon), 96: 5,657 mg/l (IUCLID)

#### Aquatic Toxicity: Urea

Acute and prolonged toxicity to fish:	LC50 - Rasbora heteromorpha (Harlequin rasbora), 96 h: 12,000 mg/l (IUCLID)
Toxicity to aquatic invertebrates:	EC50 - Daphnia magna (Water flea), 24 h: >10,000 mg/l (IUCLID)

### 12.2 Persistence and degradability

Product is expected to be readily biodegradable.

### 12.3 Bioaccumulation potential

Not expected to bioaccumulate (log Pow = <1)

### 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.

## SECTION 13 - DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product

**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:** The classification of this product may meet the criteria for a hazardous waste.

## 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.

**This material is not regulated for transport.**

**Marine Pollutant:** No

## 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 contains "Hazardous Chemicals" as defined by the OSHA Hazard Communication Standard (28 CFR 1910.1200).

**TSCA Status:** All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory.

**Superfund Amendments and Reauthorization Act (SARA)**

**SARA Section 311/312 Hazard Categories:** None known

**SARA 313 Information:** None of the chemicals in this product exceed the threshold (de minimis) reporting levels established by Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.



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**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):** Product contains no CERCLA reportable materials.

**Clean Air Act (CAA)**

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

This product does not contain any Class 1 Ozone depleters.

This product does not contain any Class 2 Ozone depleters.

**Clean Water Act (CWA)**

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

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.

**Canada**

**WHMIS Hazard Symbol and Classification:** None allocated

**Canadian Controlled Products Regulations (CPR):** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations, and the MSDS contains all the information required by the Controlled Products Regulations.

**Canadian Ingredient Disclosure List (IDL):** None of the ingredients are listed on the IDL.

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

**European Economic Community**

**Classification (67/548/EEC to 1999/45/EC)**

Not a hazardous substance according to EC directives 67/458/EEC or 1999/45/EC.

**WGK, Germany (Water danger/protection):** 1

**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" indicates that all components of this product are in compliance with the inventory requirements administered by the governing country.

\*"No" indicates that one or more components of this product are not on the inventory and are not exempt from listing.

## SECTION 16 - OTHER INFORMATION

**Hazardous Material Information System (HMIS)**

Health	1
Flammability	0
Physical Hazard	0
Personal Protection	C

**HMIS and NFPA Hazard Rating Legend**

\* = Chronic Health Hazard      2 = MODERATE  
 0 = INSIGNIFICANT                3 = HIGH  
 1 = SLIGHT                            4 = EXTREME



**National Fire Protection Association (NFPA)**

**Flammability**



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