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SAFETY DATA SHEET

Urea U-Tech Untreated Technical Grade

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	:	Urea U-Tech Untreated Technical Grade
EC number	:	200-315-5
REACH Registration number	:	01-2119463277-33
CAS number	:	57-13-6
Product code	:	PA387P
Product type	:	Solid
Chemical formula	:	CH4N2O

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

Notes	:	The safety data sheet and any attached exposure scenario are compiled in accordance with the REACH regulation and in no way reflects the specification, purity or quality standards required for specific applications and use of the product identified in section 1.1.

Identified uses
Industrial distribution. Industrial USE to formulate chemical product mixtures. Industrial Use for flue gas NOx and SOx reduction. Industrial USE as chemical intermediate. Industrial USE as reactive agent/processing aid and for general chemical applications. Industrial USE as chemical/process nutrient. Industrial USE for surface/article treatment. Does not end up onto surface. Industrial USE to manufacture specialist chemical/other products. Industrial USE as part of specialist chemicals/other products . Professional formulation of mixtures. Professional USE as chemical/process nutrient. Professional USE as reactive agent/processing aid and for general chemical applications. Professional USE as a laboratory/research chemical. Professional USE for surface/article treatment. Does not end up onto surface. Professional USE as part of specialist chemicals/other products. Industrial USE in manufacture of paper products. Industrial USE as a laboratory/research chemical. Professional distribution.

Uses advised against	:	None identified.

1.3 Details of the supplier of the safety data sheet

Yara UK Limited

Address

Street	:	Pocklington Industrial Estate
Postal code	:	YO42 1DN
City	:	York
Country	:	United Kingdom
Telephone number	:	+44 1759 302545
Fax no.	:	+44 1759 303650
e-mail address of person responsible for this SDS	:	yarauk.hesq@yara.com

1.4 Emergency telephone number

National advisory body/Poison Center	:	Not available.

Supplier

Emergency telephone number (with hours of operation)	:	National Chemical Emergency Centre +44 (0) 1865 407333 (24h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture.

Product definition : Mono-constituent substance

Classification according to UK CLP/GHS

Classification : Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word : No signal word.

Hazard statements : Not applicable.

Precautionary statements : Not applicable.

EU Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with : Not applicable.

child-resistant fastenings
Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

PBT	P	B	T	vPvB	vP	vB
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Other hazards which do not result in classification : None known.

Additional information : Product forms slippery surface when combined with water.

SECTION 3: Composition/information on ingredients

3.1 Substances : Mono-constituent substance

Product/ingredient name	Identifiers	%	Classification	Type
urea	REACH #: 01-2119463277-33 EC : 200-315-5 CAS : 57-13-6	99.7	Not classified.	[1]

See Section 16 for the full text of the H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type
[1] Constituent

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

Remarks : No additional remark.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Rinse with plenty of running water. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. Get medical attention if you feel unwell. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Wash with soap and water. Get medical attention if irritation develops.

Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by

medical personnel. Get medical attention if adverse health effects persist or are severe.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. 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.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None identified.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : No specific fire or explosion hazard.

Hazardous combustion products : Decomposition products may include the following materials: nitrogen oxides, ammonia, Avoid breathing dusts, vapors or fumes from burning materials., In case of inhalation of decomposition products in a fire, symptoms may be delayed.

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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.

SECTION 6: Accidental release measures

6.1 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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

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".

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

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.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight

in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Remark : No exposure limit value known.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Reference should be made to appropriate monitoring standards.
Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
urea	DNEL	Short term Dermal	500 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	3526 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	500 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	3526 mg/m³	Workers	Systemic

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
urea	PNEC	Fresh water	14.07 mg/l	Assessment Factors
	PNEC	Salt water	1.407 mg/l	Assessment Factors
	PNEC	Fresh water sediment	68.66 mg/kg dwt	Equilibrium Partitioning
	PNEC	Marine water sediment	6.866 mg/kg dwt	Equilibrium Partitioning
	PNEC	Sewage Treatment Plant	1000 mg/l	Assessment Factors
	PNEC	Soil	121 mg/kg	Sensitivity

			dwt	Distribution

8.2 Exposure controls

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

Individual protection measures

Hygiene measures : A washing facility or water for eye and skin cleaning purposes should be present. 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. Wash contaminated clothing before reusing.

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.

Skin protection

Hand protection : 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. For general applications, we recommend gloves with a thickness typically greater than 0.35 mm. It should be emphasized that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

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.

Respiratory protection : In case of inadequate ventilation wear respiratory protection.

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.

Personal protective equipment (Pictograms) :

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Solid (prills)
Color	:	White.,
Odor	:	Odorless.
Melting point/freezing point	:	134 °C
Initial boiling point and boiling range	:	Not applicable.
Flammability	:	Non-flammable.
Upper/lower flammability or explosive limits	:	**Lower:** Not applicable. **Upper:** Not applicable.
Flash point	:	Not applicable.
Auto-ignition temperature	:	Not applicable.
Decomposition temperature	:	
pH	:	7.2 [Conc. (% w/w): 100 g/l]
Viscosity	:	**Kinematic:** Not applicable.
Solubility(ies)	:	Easily soluble in the following materials: cold water
Water solubility	:	> 100 g/l
Partition coefficient: n-octanol/water	:	Not applicable.
Vapor pressure	:	0.000016 hPa @ 20 °C
Relative vapour density	:	Not applicable.
Bulk density	:	700 - 760 kg/m3
Explosive properties	:	Non-explosive.
Oxidizing properties	:	Non-oxidizer. No oxidizing ingredients present.

Particle characteristics

Median particle size	:	1 - 2.5 mm

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	:	The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Avoid contamination by any source including metals, dust and organic materials.

10.5 Incompatible materials : Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride.

Remark : acids
alkalis
Nitrites and nitrates

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Method	Species	Result	Exposure
urea				
	OECD 401 LD50 Oral	Rat	14,300 mg/kg	Not applicable.

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

Acute toxicity estimates

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
urea	14,300 mg/kg	N/A	N/A	N/A	N/A

Irritation/Corrosion

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

Sensitization

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

Mutagenicity

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

Carcinogenicity

Product/ingredient name	Method	Species	Result	Exposure
urea				
	Oral	Rat	Negative NOAEL 2,250 mg/kg	7 days per week

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

Reproductive toxicity

Product/ingredient name	Method	Species	Result	Exposure
urea				
	Oral	Rat	Developmental-Negative 1000 mg/kg bw/day	7 days per week

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

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Eye contact : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.
Ingestion : No specific data.
Skin contact : No specific data.
Eye contact : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure
Short term exposure
Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure
Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

Product/ingredient name	Method	Species	Result	Exposure
urea				
	Chronic NOAEL Oral	Rat	2,250 mg/kg	12 months 7 days per week

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Other effects : No known significant effects or critical hazards.

Toxicokinetics

Absorption : Rapidly absorbed.

Distribution : Not metabolized within liver tissues before entering the systemic circulation.

Metabolism : Metabolite is not known to be toxic.

Elimination : The chemical and its metabolites are fully excreted and do not accumulate within the body.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Method	Species	Result	Exposure
urea				
	Acute LC50 Fresh water	Fish	21,060 mg/l	96 h
	Acute EC50 Fresh water	Daphnia	10,000 mg/l	24 h
	OECD 201 Acute EC50 Fresh water	Algae	24,541.9 mg/l	72 h
	OECD 201 Chronic EC10 Fresh water	Algae	6,895.8 mg/l	72 h
	215 Fish, Juvenile Growth Test Chronic EC10 Fresh water	Fish	7,247 mg/l	28 d
	OECD 211 Chronic EC10 Fresh water	Daphnia	140.7 mg/l	21 d

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

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
urea	302B Inherent Biodegradability:	96 % - Inherently biodegradable -	Not applicable.	Activated sludge

	Zahn-Wellens/EMPA Test	16 d		

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

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
urea	1.73-1.73	Not applicable.	low

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

12.4 Mobility in soil

Soil/water partition coefficient (KOC) : Not available.

Mobility : This product may move with surface or groundwater flows because its water solubility is: high

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
urea	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : 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.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Waste catalogue

Waste code	Waste designation
06 10 99	wastes not otherwise specified

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled.

Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way.
Empty containers or liners may retain some product residues.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	Not applicable.	Not applicable.	Not applicable.	Not applicable.
14.3 Transport hazard class(es)	Not applicable.	Not applicable.	Not applicable.	Not applicable.
14.4 Packing group	Not applicable.	Not applicable.	Not applicable.	Not applicable.
14.5. Environmental hazards	No.	No.	No.	No.

14.6 Special precautions for user : Transport within user's premises: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments

Proper shipping name : UREA
Remarks : **Solid bulk cargoes**
Harmful to the marine environment with regard to MARPOL Annex V: No
Material is hazardous only in bulk according to the IMSBC: No
IMSBC shipping group: C

SECTION 15: Regulatory information

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

UK (GB) /REACH

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

None of the components are listed.

Prior Informed Consent (PIC)
None of the components are listed.

Persistent Organic Pollutants
None of the components are listed.

EU Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Seveso Directive
This product is not controlled under the Seveso Directive.

Other regulations : This product is not subject to The Poison Act 1972 and the following amendments, but all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

National regulations

Biocidal products regulation : Not applicable.

EU regulations

Notes : To our knowledge no other country or state specific regulations are applicable.

15.2 Chemical Safety Assessment : Complete.

SECTION 16: Other information

Abbreviations and acronyms :
ATE = Acute Toxicity Estimate
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
DNEL = Derived No Effect Level
DMEL = Derived Minimal Effect Level
EUH statement = GB CLP-specific Hazard statement
N/A = Not available
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
SGG = Segregation Group
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
bw = Body weight

Key data sources : EU REACH ECHA/IUCLID5 CSR.

National Institute for Occupational Safety and Health, U.S. Dept. of Health, Education, and Welfare, Reports and Memoranda Registry of Toxic Effects of Chemical Substances.
Sphera Solutions Inc., 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada.

Procedure used to derive the classification

Not classified.

Full text of abbreviated H statements

Not applicable.

Full text of classifications

Not applicable.

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Prepared by	:	Product Stewardship and Compliance (PSC).

|| Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as at the date of its issue. The information it contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein, since all materials may represent unknown hazards and should be used with caution. Final determination of the suitability of any material is the sole responsibility of the user.