

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>Urea</b>
<b>Other means of identification</b>	
<b>Product code</b>	KFI_Urea_US_EN
<b>Synonyms</b>	Carbamide, Carbamidic Acid
<b>Recommended use</b>	Fertilizer
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Company Name</b>	Koch Fertilizer International Limited
<b>Address</b>	4th Floor 20 Gresham Street London, United Kingdom EC2V 7JE
<b>Telephone</b>	1.316.828.7672
<b>E-mail</b>	kochmsds@kochind.com
<b>Emergency phone number</b>	USA/Canada - 1.800.424.9300 Outside USA/Canada - 1.703.527.3887

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.
<b>Health hazards</b>	Not classified.
<b>OSHA defined hazards</b>	Not classified.
<b>Label elements</b>	
<b>Hazard symbol</b>	None.
<b>Signal word</b>	None.
<b>Hazard statement</b>	The substance does not meet the criteria for classification.
<b>Precautionary statement</b>	
<b>Prevention</b>	Observe good industrial hygiene practices.
<b>Response</b>	Wash hands after handling.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of waste and residues in accordance with local authority requirements.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	Not applicable.

## 3. Composition/information on ingredients

<b>Substances</b>			
<b>Chemical name</b>	<b>Common name and synonyms</b>	<b>CAS number</b>	<b>%</b>
Urea*		57-13-6	95 - 100

<b>Composition comments</b>	*Treated with a non-hazardous anti-caking agent, less than 1% by weight.  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.
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## 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Get medical attention if any discomfort continues.
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<b>Skin contact</b>	Wash contact areas with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Dust in the eyes: Do not rub eyes. 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.
<b>Ingestion</b>	Rinse mouth thoroughly. Get medical attention if any discomfort continues.
<b>Most important symptoms/effects, acute and delayed</b>	Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing. Skin contact: Mild skin irritation Dust may irritate throat and respiratory system and cause coughing.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	Urea is non-combustible under most conditions. However, during a fire, irritating/toxic gases may be generated. The dust can be ignited at very high temperatures, but not expected to explode (minimum ignition temperature (cloud) = 900 deg C).
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do it without risk. Use water spray to prevent dust formation, absorb heat, keep containers cool and protect fire-exposed material.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Avoid inhalation of dust and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. After removal flush contaminated area thoroughly with water.
<b>Environmental precautions</b>	Never return spills to original containers for re-use. For waste disposal, see Section 13 of the SDS. 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

<b>Precautions for safe handling</b>	Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Use only with adequate ventilation. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store away from incompatible materials.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. Workplace Environmental Exposure Level (WEEL) Guides

Material	Type	Value	Form
Urea	TWA	10 mg/m <sup>3</sup>	Total particulate.

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of dust.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Use tight fitting goggles if dust is generated.
<b>Skin protection</b>	
<b>Hand protection</b>	Risk of contact: Wear protective gloves. Suitable gloves can be recommended by the glove supplier.

<b>Skin protection</b>	
<b>Other</b>	Risk of contact: Wear appropriate clothing to prevent any possibility of skin contact.
<b>Respiratory protection</b>	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 dust, use suitable respiratory equipment with particle filter. 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.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	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

<b>Appearance</b>	White granules with faint ammonia odor.
<b>Physical state</b>	Solid.
<b>Form</b>	Granular. Pellets.
<b>Color</b>	White.
<b>Odor</b>	Ammonia-like. Faint, characteristic.
<b>Odor threshold</b>	Not available.
<b>pH</b>	8 - 8.5 10% solution
<b>Melting point/freezing point</b>	270.86 °F (132.7 °C)
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not applicable.
<b>Vapor density</b>	Not applicable.
<b>Relative density</b>	1.335 (water=1)
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Soluble.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not applicable.
<b>Other information</b>	
<b>Bulk density</b>	48 - 52 lb/ft <sup>3</sup> (Packed)
<b>Explosive properties</b>	Not explosive.
<b>Molecular weight</b>	60.06 g/mol
<b>Oxidizing properties</b>	Not oxidizing.

## 10. Stability and reactivity

<b>Reactivity</b>	Reacts violently with strong oxidants, nitrites, inorganic chlorides, chlorites and perchlorates causing fire and explosion hazard.
<b>Chemical stability</b>	Normally stable. May gradually give off ammonia. The product is hygroscopic and will absorb water by contact with the moisture in the air.

<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Moisture. High temperatures. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents. Nitric acid. Nitrites.
<b>Hazardous decomposition products</b>	Carbon oxides. Nitrogen oxides (NOx). Ammonia. Biuret.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	High concentrations of dust may irritate throat and respiratory system and cause coughing.
<b>Skin contact</b>	Dust may irritate skin.
<b>Eye contact</b>	Dust may irritate the eyes.
<b>Ingestion</b>	May cause discomfort if swallowed.

<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing. Skin contact: Mild skin irritation. Liberated dust may irritate throat and respiratory system and cause coughing.
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### Information on toxicological effects

<b>Acute toxicity</b>	May cause discomfort if swallowed.
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Product	Species	Test Results
Urea		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	14300 mg/kg

<b>Skin corrosion/irritation</b>	May cause irritation through mechanical abrasion.
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<b>Serious eye damage/eye irritation</b>	May cause irritation through mechanical abrasion.
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### Respiratory or skin sensitization

<b>Respiratory sensitization</b>	Based on available data, the classification criteria are not met.
<b>Skin sensitization</b>	Not a skin sensitizer.

<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
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<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

#### NTP Report on Carcinogens

Not listed.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
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<b>Specific target organ toxicity - single exposure</b>	Inhalation of dusts may cause respiratory irritation.
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<b>Specific target organ toxicity - repeated exposure</b>	Based on available data, the classification criteria are not met.
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<b>Aspiration hazard</b>	Not an aspiration hazard.
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<b>Chronic effects</b>	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
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<b>Further information</b>	No other specific acute or chronic health impact noted.
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## 12. Ecological information

<b>Ecotoxicity</b>	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.
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Product	Species	Test Results
Urea		
<b>Aquatic</b>		
Fish	LC50 Leuciscus idus	> 6810 mg/l, 96 hours
<b>Persistence and degradability</b>	No data available.	
<b>Bioaccumulative potential</b>	No data available.	
<b>Mobility in soil</b>	This product is water soluble and may disperse in soil.	
<b>Other adverse effects</b>	No data available.	

### 13. Disposal considerations

<b>Disposal instructions</b>	Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	Not regulated.
<b>Waste from residues / unused products</b>	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.
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

<b>DOT</b>	Not regulated as dangerous goods.
<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	Not regulated as dangerous goods.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable. However, the product is covered under Appendix I of the IMSBC Code.

### 15. Regulatory information

<b>US federal regulations</b>	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
<b>TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)</b>	Not regulated.
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	Not regulated.
<b>CERCLA Hazardous Substance List (40 CFR 302.4)</b>	Not listed.
<b>Superfund Amendments and Reauthorization Act of 1986 (SARA)</b>	
<b>Hazard categories</b>	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
<b>SARA 302 Extremely hazardous substance</b>	Not listed.
<b>SARA 311/312 Hazardous chemical</b>	Yes
<b>SARA 313 (TRI reporting)</b>	Not regulated.
<b>Other federal regulations</b>	
<b>Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List</b>	Not regulated.
<b>Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)</b>	Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Food and Drug Administration (FDA)** Total food additive  
Direct food additive  
GRAS food additive

**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**

Not regulated.

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

Not listed.

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

Not listed.

**US. Rhode Island RTK**

Not regulated.

**US. California Proposition 65**

Not Listed.

**International Inventories**

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 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** 17-October-2016  
**Revision date** -  
**Version #** 01  
**Further information** HMIS® is a registered trade and service mark of the NPCA.  
**HMIS® ratings** Health: 1  
Flammability: 0  
Physical hazard: 0

**NFPA ratings**



**List of abbreviations**

LC50: Lethal Concentration, 50%.  
LD50: Lethal Dose, 50%.

**References**

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

## 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.