

KOCH FERTILIZER CANADA, ULC

**1. Identification**

<b>Product identifier</b>	<b>Urea SuperU™ blend KF10000</b>	
<b>Other means of identification</b>		
<b>Product code</b>	KFC_UreaSuperU_CA_EN	
<b>Recommended use</b>	Fertiliser.	
<b>Recommended restrictions</b>	None known.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Company name</b>	Koch Fertilizer Canada ULC	
<b>Address</b>	1400 17th Street East Brandon MB R7A 7C4 CA	
<b>Telephone</b>	204-729-2900	
<b>E-mail</b>	kochmsds@kochind.com	
<b>Emergency phone number</b>	For Chemical Emergency Call CHEMTREC day/night USA	1.800.424.9300
	Emergency Assist Response	1.204.729.2999
	To Request SDS	1.316.828.7672

**2. Hazard(s) identification**

<b>Physical hazards</b>	Not classified.
<b>Health hazards</b>	Not classified.
<b>Environmental hazards</b>	Not classified.
<b>Label elements</b>	
<b>Hazard symbol</b>	None.
<b>Signal word</b>	None.
<b>Hazard statement</b>	The mixture does not meet the criteria for classification.
<b>Precautionary statements</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>Other hazards</b>	None known.
<b>Supplemental information</b>	None.

**3. Composition/information on ingredients****Mixtures**

<b>Chemical name</b>	<b>CAS number</b>	<b>%</b>
Urea	57-13-6	60 - 100
Non hazardous dye	Proprietary	0 - 3
Dicyandiamide	461-58-5	< 1
N-(n-butyl)-thiophosphoric triamide	94317-64-3	0 - 0.1
N-Methyl-2-pyrrolidone	872-50-4	0 - 0.1

**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

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact** Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed** Dusts may irritate the respiratory tract, skin and eyes.

**Indication of immediate medical attention and special treatment needed** Treat symptomatically.

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

#### 5. Fire-fighting measures

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

**Unsuitable extinguishing media** None known.

**Specific hazards arising from the chemical** 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).

**Special 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.

**Fire fighting equipment/instructions** 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.

**General fire hazards** Bulk material is non-combustible.

#### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up** Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

#### 7. Handling and storage

**Precautions for safe handling** Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid prolonged exposure. Practice good housekeeping.

**Conditions for safe storage, including any incompatibilities** Store in original tightly closed container. Store in a well-ventilated place. Long term storage at temperatures above 36°C (100°F) can adversely affect the efficacy of products containing N-(n-butyl)-thiophosphoric triamide. Store away from incompatible materials (see section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Dust (CAS -)	TWA	3 mg/m <sup>3</sup>	Respirable particles.
		10 mg/m <sup>3</sup>	Inhalable particles.

#### Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Dust (CAS -)	TWA	3 mg/m <sup>3</sup>	Respirable particles.
		10 mg/m <sup>3</sup>	Total particulate.

#### Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Dust (CAS -)	TWA	3 mg/m <sup>3</sup>	Respirable fraction.
		10 mg/m <sup>3</sup>	Total dust.

#### Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Dust (CAS -)	TWA	3 mg/m <sup>3</sup>	Respirable particles.

#### Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Dust (CAS -)	TWA	3 mg/m <sup>3</sup>	Respirable fraction.
		10 mg/m <sup>3</sup>	Inhalable fraction.
N-Methyl-2-pyrrolidone (CAS 872-50-4)	TWA	400 mg/m <sup>3</sup>	

#### Canada. Quebec OELs. (Ministry of Labour - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Dust (CAS -)	TWA	10 mg/m <sup>3</sup>	Total dust.

### Biological limit values

#### ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling time
N-Methyl-2-pyrrolidone (CAS 872-50-4)	100 mg/l	5-Hydroxy-N-methyl-2-pyrrolidone	Urine	*

\* - For sampling details, please see the source document.

**Appropriate engineering controls** Provide adequate general and local exhaust ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust.

#### Individual protection measures, such as personal protective equipment

**Eye/face protection** Risk of contact: Wear dust goggles.

#### Skin protection

**Hand protection** Risk of contact: Wear protective gloves. Suitable gloves can be recommended by the glove supplier.

#### Other

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid 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. 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.

#### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

**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 practices.

**9. Physical and chemical properties**

**Appearance** Mixture of white and light to medium blue granules.

**Physical state** Solid.

**Form** Granules.

**Colour** White. Light to medium blue

**Odour** Slight sulfurous

**Odour threshold** Not available.

**pH** 7.2 (10% in water)

**Melting point/freezing point** 135 °C (275 °F) Decomposes

**Initial boiling point and boiling range** Not applicable.

**Flash point** Not available.

**Evaporation rate** Not applicable.

**Flammability (solid, gas)** Not applicable.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not applicable.

**Flammability limit - upper (%)** Not applicable.

**Explosive limit - lower (%)** Not available.

**Explosive limit – upper (%)** Not available.

**Vapour pressure** Not applicable.

**Vapour density** Not applicable.

**Relative density** 1.32

**Solubility(ies)**

**Solubility (water)** Soluble.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Other information**

**Density** 47.00 lb/ft<sup>3</sup>

**Explosive properties** Not explosive.

**Oxidising properties** Not oxidising.

**10. Stability and reactivity**

**Reactivity** Reacts violently with strong oxidants, nitrites, inorganic chlorides, chlorites and perchlorates causing fire and explosion hazard.

**Chemical stability** Normally stable. May gradually give off ammonia. The product is hygroscopic and will absorb water by contact with the moisture in the air.

**Possibility of hazardous reactions** Hazardous polymerisation does not occur.

**Conditions to avoid** Moisture. High temperatures. Contact with incompatible materials.

**Incompatible materials** Strong oxidising agents. Nitric acid. Nitrites.

**Hazardous decomposition products** Carbon oxides. Nitrogen oxides (NOx). Ammonia. Biuret.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Dust or powder may irritate the skin.
<b>Eye contact</b>	Dust may irritate the eyes.
<b>Ingestion</b>	May cause discomfort if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Dusts may irritate the respiratory tract, skin and eyes.

### Information on toxicological effects

**Acute toxicity** May cause discomfort if swallowed.

Components	Species	Test results
Dicyandiamide (CAS 461-58-5)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	New Zealand white rabbit	> 2000 mg/kg, 24 hours
<b>Inhalation</b>		
LC50	Wistar rat	> 259 mg/m <sup>3</sup> , 4 hours
<b>Oral</b>		
LD50	Wistar rat	> 10000 mg/kg > 7000 mg/kg
N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 2000 mg/kg
<b>Inhalation</b>		
LC50	Wistar rat	> 2.1 mg/l, 4 hours
<b>Oral</b>		
LD50	Wistar rat	> 2000 mg/kg
N-Methyl-2-pyrrolidone (CAS 872-50-4)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rat	> 5000 mg/kg
<b>Inhalation</b>		
<i>Mist</i>		
LC50	Rat	> 5.1 mg/l, 4 hours
<b>Oral</b>		
LD50	Rat	3605 mg/kg
Urea (CAS 57-13-6)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	14300 mg/kg
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.	
<b>Irritation Corrosion - Skin</b>		
N-Methyl-2-pyrrolidone (CAS 872-50-4)	Result: Slightly irritating Species: Rabbit	
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.	
<b>Eye</b>		
N-Methyl-2-pyrrolidone (CAS 872-50-4)	Result: Moderately irritating Species: Rabbit Observation Period: 14 days	

## Respiratory or skin sensitisation

**Respiratory sensitisation** Not a respiratory sensitiser.

**Skin sensitisation** This product is not expected to cause skin sensitisation.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Not classifiable as to carcinogenicity to humans.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**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.

Components		Species	Test results
Dicyandiamide (CAS 461-58-5)			
<b>Aquatic</b>			
<i>Acute</i>			
Algae	EC50	Selenastrum capricornutum (Pseudokirchnerella subcapitata)	2.04 g/l, 4 days
Crustacea	EC50	Daphnia magna	> 3177 mg/l, 48 hours
Fish	LC50	Lepomis macrochirus	> 1000 mg/l, 96 hours
		Oncorhynchus mykiss	7700 ppm, 96 hours
<i>Chronic</i>			
Crustacea	LC50	Daphnia magna	> 100 mg/l, 21 days
Fish	LC50	Oryzias latipes	> 100 mg/l, 14 days
N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3)			
<b>Aquatic</b>			
Algae	EC50	Selenastrum capricornutum	280 mg/l, 96 hours
Crustacea	EC50	Daphnia magna	290 mg/l, 48 hours
	LC50	Daphnia	350 mg/l, 48 hours
Fish	LC50	Lepomis macrochirus	1140 mg/l, 96 hours
N-Methyl-2-pyrrolidone (CAS 872-50-4)			
<b>Aquatic</b>			
<i>Acute</i>			
Algae	EC50	Scenedesmus subspicatus	> 500 mg/l, 72 Hours
Crustacea	EC50	Daphnia magna	> 1000 mg/l, 24 Hours
Fish	LC50	Oncorhynchus mykiss	> 500 mg/l, 96 Hours
<i>Chronic</i>			
Crustacea	NOEC	Daphnia magna	12.5 mg/l, 21 days
Urea (CAS 57-13-6)			
<b>Aquatic</b>			
Algae	EC10	Algae	47 mg/l, 192 hours
Crustacea	LC50	Water flea (Daphnia magna)	> 10000 mg/l, 24 hours
Fish	LC50	Leuciscus idus	> 6810 mg/l, 96 hours

## Persistence and degradability

### Bioaccumulative potential

#### Partition coefficient n-octanol / water (log Kow)

N-Methyl-2-pyrrolidone (CAS 872-50-4) -0.54

**Partition coefficient n-octanol / water (log Kow)**

Urea (CAS 57-13-6)

-2.11

**Mobility in soil**

This product is water soluble and may disperse in soil.

**Other adverse effects**

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

**13. Disposal considerations****Disposal instructions**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

**Local disposal regulations**

Dispose in accordance with all applicable regulations.

**Hazardous waste code**

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**

Dispose in accordance with applicable regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**14. Transport information****TDG**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.**15. Regulatory information****Canadian regulations**

This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

**Controlled Drugs and Substances Act**

Not regulated.

**Export Control List (CEPA 1999, Schedule 3)**

Not listed.

**Greenhouse Gases**

Not listed.

**Precursor Control Regulations**

Not regulated.

**International regulations****Stockholm Convention**

Not applicable.

**Rotterdam Convention**

Not applicable.

**Kyoto protocol**

Not applicable.

**Montreal Protocol**

Not applicable.

**Basel Convention**

Dicyandiamide (CAS 461-58-5)

**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)

No

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
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	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
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

**Issue date** 07-June-2017

**Revision date** -

**Version No.** 01

**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.