

1. Identification

Product identifier SuperU® Stabilized Nitrogen Fertilizer

Other means of identification

Product code KF_SuperU_CA_EN

Recommended use Fertiliser.

Recommended restrictions Use in accordance with supplier's recommendations.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Koch Fertilizer, LLC
4111 E 37th Street North
PO Box 2219
Wichita, KS, 67201-2219
kochmsds@kochind.com
1-316-828-7672

Emergency For Chemical Emergency
Call CHEMTREC day or night
1.800.424.9300
Mexico - 1.800.681.9531
Outside USA/Canada
1.703.527.3887
(collect calls accepted)

2. Hazard identification

Physical hazards Not classified.

Health hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Supplemental information Not applicable.

Other hazards None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Urea		57-13-6	60 - 100
Non hazardous dye		Proprietary	< 3
Dicyandiamide		461-58-5	0.5 - 1.5
N-(n-butyl)-thiophosphoric triamide		94317-64-3	< 0.1
N-Methyl-2-pyrrolidone		872-50-4	< 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. Get medical attention if any discomfort continues.

Skin contact

Wash contact areas with soap and water. Get medical attention if irritation develops and persists.

Eye contact

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.

Ingestion

Rinse mouth thoroughly. Get medical attention if any discomfort continues.

Most important symptoms/effects, acute and delayed

Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing.
Skin contact: May cause mild skin irritation.
Dust may irritate throat and respiratory system and cause coughing.

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

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.

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.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

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.

Never return spills to original containers for re-use.

Environmental precautions

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

Precautions for safe handling

Avoid inhalation of dust and contact with skin and eyes. Use only with adequate ventilation. Observe good personal hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Store in a cool, dry place. Keep container tightly closed. Store away from incompatible materials. Long term storage at temperatures above 100°F (36°C) can adversely affect the efficacy of products containing N-(n-butyl)-thiophosphoric triamide.

8. Exposure controls/personal protection

Occupational exposure limits

ACGIH

Components

Type

Value

Form

Dust

TWA

10 mg/m3

Inhalable particles.

**US. ACGIH Threshold Limit Values
Components**

Components	Type	Value	Form
Dust	TWA	3 mg/m3	Respirable particles.

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

Components	Type	Value	Form
Dust	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	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	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Total dust.

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

Components	Type	Value	Form
Dust	TWA	3 mg/m3	Respirable particles.

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

Components	Type	Value	Form
Dust	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
N-Methyl-2-pyrrolidone (CAS 872-50-4)	TWA	400 mg/m3	

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value	Form
Dust	TWA	10 mg/m3	Total dust.

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value	Form
Dust	15 minute	6 mg/m3	Respirable fraction.
		20 mg/m3	Inhalable fraction.
	8 hour	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.

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	Blue. Granules.
Physical state	Solid.
Form	Granules.
Colour	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	
Explosive limit - lower (%)	Not applicable.
Explosive limit – upper (%)	Not applicable.
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 lb/ft ³
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable under normal temperature conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Extreme temperatures.
Incompatible materials	Acids. Strong reducing agents. Strong oxidising agents.
Hazardous decomposition products	During combustion: Carbon oxides. Nitrogen oxides. Sulphur oxides.

11. Toxicological information

Information on likely routes of exposure

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

Symptoms related to the physical, chemical and toxicological characteristics	Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing. Skin contact: May cause mild skin irritation. Dust may irritate throat and respiratory system and cause coughing.
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Information on toxicological effects

Acute toxicity	May cause discomfort if swallowed.
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Components	Species	Test Results
Dicyandiamide (CAS 461-58-5)		
<u>Acute</u>		
Dermal		
LD50	New Zealand white rabbit	> 2000 mg/kg, 24 hours
Inhalation		
LC50	Wistar rat	> 259 mg/m3, 4 hours
Oral		
LD50	Wistar rat	> 10000 mg/kg
		> 7000 mg/kg
N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Wistar rat	> 2.1 mg/l, 4 hours
Oral		
LD50	Wistar rat	> 2000 mg/kg
N-Methyl-2-pyrrolidone (CAS 872-50-4)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 5000 mg/kg
Inhalation		
Mist		
LC50	Rat	> 5.1 mg/l, 4 hours
Oral		
LD50	Rat	3605 mg/kg
Urea (CAS 57-13-6)		
<u>Acute</u>		
Oral		
LD50	Rat	14300 mg/kg
Skin corrosion/irritation	May cause irritation through mechanical abrasion.	
Serious eye damage/eye irritation	May cause irritation through mechanical abrasion.	
Respiratory or skin sensitisation		
Respiratory sensitisation	Not a respiratory sensitiser.	
Skin sensitisation	Not a skin sensitiser.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	

Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
Further information	No other specific acute or chronic health impact noted.

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.
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Components	Species		Test Results
Dicyandiamide (CAS 461-58-5)			
Aquatic			
Acute			
Algae	EC50	Selenastrum capricornutum	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
Chronic			
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)			
Aquatic			
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)			
Aquatic			
Acute			
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
Chronic			
Crustacea	NOEC	Daphnia magna	12.5 mg/l, 21 days
Urea (CAS 57-13-6)			
Aquatic			
Algae	EC10	Algae	47 mg/l, 192 hours
Fish	LC50	Leuciscus idus	> 6810 mg/l, 96 hours
Acute			
Crustacea	LC50	Water flea (Daphnia magna)	> 10000 mg/l, 24 hours

Persistence and degradability No data available.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

Dicyandiamide (CAS 461-58-5)	-1.15
N-Methyl-2-pyrrolidone (CAS 872-50-4)	-0.54
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	Do not allow this material to drain into sewers/water supplies. 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	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.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

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 Industrial Chemicals (AICIS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	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

Country(s) or region	Inventory name	On inventory (yes/no)*
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply 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 10-August-2021

Revision date -

Version No. 01

List of abbreviations

LC50: Lethal Concentration, 50%.

LD50: Lethal Dose, 50%.

References

IARC: International Agency for Research on Cancer.

National Toxicology Program (NTP) Report on Carcinogens

Disclaimer

NOTICE: The information contained in this document is based on data considered to be accurate as of the preparation date of this Safety Data Sheet (SDS) and was prepared pursuant to applicable Government regulation(s). 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 above 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 about 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. Purchasers and users of the product are responsible for determining that this product is suitable for the intended use and application. No responsibility can be assumed by vendor for any damage or injury resulting from failure to adhere to recommended uses, or from any hazards inherent to 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 should explicitly advise their employees, agents, contractors and customers who will use the product of this SDS.