

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** AGROTAIN® PLUS SC for UAN

**Other means of identification**

**Product code** KAS\_AGROPLUSSC\_US\_EN

**Recommended use** Fertilizer Additive.

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer/Supplier** Koch Agronomic Services, LLC  
 4111 E 37th St N  
 Wichita, KS 67220 US  
 kochmsds@kochind.com  
 1.866.863.5550

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

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Serious eye damage/eye irritation Category 1  
 Reproductive toxicity Category 2

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Danger

**Hazard statement** Causes serious eye damage. Suspected of damaging fertility or the unborn child.

**Precautionary statement**

**Prevention** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.

**Response** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If exposed or concerned: Get medical advice/attention.

**Storage** Store locked up.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** Not applicable.

## 3. Composition/information on ingredients

**Mixtures**

Chemical name	CAS number	%
Dicyandiamide	461-58-5	35 - 55

Water	7789-20-0	20 - 40
Urea	57-13-6	15 - 35
N-(n-butyl)-thiophosphoric triamide	94317-64-3	1 - 5
Non-hazardous dye	Proprietary	< 1
Xanthan gum	11138-66-2	< 0.5

**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 person to fresh air. If the affected person is not breathing, apply artificial respiration. Get medical attention immediately.

**Skin contact** Immediately flush skin with plenty of water. Get medical attention if irritation develops and persists.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

**Ingestion** Rinse mouth thoroughly. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention.

**Most important symptoms/effects, acute and delayed** Risk of serious damage to eyes. Mild skin irritation. Suspected of damaging fertility or the unborn child.

**Indication of immediate medical attention and special treatment needed** Treat symptomatically. The effects might be delayed.

**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** Water fog. Water spray. Carbon dioxide (CO<sub>2</sub>). Foam.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical** Fire may produce irritating, corrosive and/or toxic gases.

**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 should be worn when fighting chemical fires.

**Fire fighting equipment/instructions** Use standard firefighting procedures and consider the hazards of other involved materials. Cool material exposed to heat with water spray and remove it if no risk is involved.

**General fire hazards** The product is not flammable.

#### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Avoid inhalation of vapors/spray and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see Section 13 of the SDS.

**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 vapors/spray and contact with skin and eyes. Use with adequate ventilation. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities** Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store away from incompatible materials. Long term storage at temperatures above 100°F (36°C), and long term storage of opened containers, will cause the product to degrade. As the product degrades, it can release harmful gases. Store below 100°F (36°C) and use opened containers within 30 days. Always use oldest stock first.

## 8. Exposure controls/personal protection

### Occupational exposure limits

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

Components	Type	Value	Form
Urea (CAS 57-13-6)	TWA	10 mg/m3	Total particulate.

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls** Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mist. Provide eyewash station.

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

**Eye/face protection** Chemical goggles are recommended.

#### Skin protection

##### Hand protection

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

##### Skin protection

##### Other

Chemical resistant clothing is recommended.

##### 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 mist, 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.

##### 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 practice.

## 9. Physical and chemical properties

### Appearance

#### Physical state

Liquid.

#### Form

Liquid suspension

#### Color

Blue.

### Odor

Slight ammonia odor.

### Odor threshold

Not available.

### pH

8.7 (10% aqueous soln.)/8.85 (neat)

### Melting point/freezing point

Not available.

### Initial boiling point and boiling range

Not available.

### Flash point

Not available.

### Evaporation rate

Not available.

### Flammability (solid, gas)

Not applicable.

### Upper/lower flammability or explosive limits

#### Flammability limit - lower (%)

Not available.

#### Flammability limit - upper (%)

Not available.

<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<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 available.
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Stable under normal temperature conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Extreme temperatures.
<b>Incompatible materials</b>	Acids. Strong reducing agents. Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Ammonia. Butyl amide. Phosphoric acid. During combustion: Carbon oxides. Nitrogen oxides. Sulfur oxides.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Vapors and spray mist may irritate throat and respiratory system and cause coughing.
<b>Skin contact</b>	Prolonged skin contact may cause irritation.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	May cause discomfort if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Risk of serious damage to eyes. Mild skin irritation. Suspected of damaging fertility or the unborn child.

### Information on toxicological effects

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

<b>Components</b>	<b>Species</b>	<b>Test Results</b>
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

Components	Species	Test Results
<b>Inhalation</b>		
LC50	Wistar rat	> 2.1 mg/l, 4 hours
<b>Oral</b>		
LD50	Wistar rat	> 2000 mg/kg
Urea (CAS 57-13-6)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	14300 mg/kg
<b>Skin corrosion/irritation</b>	Prolonged exposure may cause skin irritation.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	No data available.	
<b>Skin sensitization</b>	No data available.	
<b>Germ cell mutagenicity</b>	No data available.	
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Not listed.		
<b>NTP Report on Carcinogens</b>		
Not listed.		
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>		
Not regulated.		
<b>Reproductive toxicity</b>	Suspected of damaging fertility or the unborn child.	
<b>Specific target organ toxicity - single exposure</b>	No data available.	
<b>Specific target organ toxicity - repeated exposure</b>	No data available.	
<b>Aspiration hazard</b>	Not available.	
<b>Chronic effects</b>	Prolonged exposure may cause chronic effects.	
<b>Further information</b>	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.

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

Components	Species	Test Results	
Fish	LC50	Lepomis macrochirus	1140 mg/l, 96 hours
Urea (CAS 57-13-6)			
<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>Partition coefficient n-octanol / water (log Kow)</b>			
Urea (CAS 57-13-6)	-2.11		
<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>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<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

#### DOT

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 established.

### 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3) 1.0 % One-Time Export Notification only.

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

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories**  
 Immediate Hazard - Yes  
 Delayed Hazard - Yes  
 Fire Hazard - No  
 Pressure Hazard - No  
 Reactivity Hazard - No

#### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** Yes

#### SARA 313 (TRI reporting)

Not regulated.

## Other federal regulations

### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

### Safe Drinking Water Act (SDWA)

Not regulated.

## US state regulations

### 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.

## 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
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)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
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, including date of preparation or last revision

Issue date	04-April-2017
Revision date	-
Version #	01
Further information	HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings	Health: 3* Flammability: 1 Physical hazard: 0

### NFPA ratings



**List of abbreviations** EC50: Effective Concentration, 50%.

LC50: Lethal Concentration, 50%.

**References** EPA: Acquire database  
HSDB® - Hazardous Substances Data Bank

## 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.