

SAFETY DATA SHEET

1. Identification

Product identifier AGROTAIN® PLUS SC for UAN

Other means of identification

Product code KAS_AGROPLUSSC_CA_EN

Recommended use Fertilizer Additive.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Koch Agronomic Services, LLC
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 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

Environmental hazards Not classified.

Label elements



Signal word Danger

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

Precautionary statements

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 CENTRE/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.

Other hazards 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 (CO₂). 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 vapours/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.

Environmental precautions 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

Precautions for safe handling Avoid inhalation of vapours/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 36°C (100°F), and long term storage of opened containers, will cause the product to degrade. As the product degrades, it can release harmful gases. Store below 36°C (100°F), and use opened containers within 30 days. Always use oldest stock first.

8. Exposure controls/personal protection

Occupational exposure limits No exposure limits noted for ingredient(s).

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.

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.

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

Physical state Liquid.

Form Liquid suspension

Colour Blue.

Odour Slight ammonia odor.

Odour 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.

Explosive limit - lower (%) Not available.

Explosive limit – upper (%) Not available.

Vapour pressure Not available.

Vapour density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
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	Ammonia. Butyl amide. Phosphoric acid. During combustion: Carbon oxides. Nitrogen oxides. Sulphur oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Vapours and spray mist may irritate throat and respiratory system and cause coughing.
Skin contact	Prolonged skin contact may cause irritation.
Eye contact	Causes serious eye damage.
Ingestion	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.
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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)		
Acute		
Dermal		
LD50	New Zealand white rabbit	> 2000 mg/kg, 24 hours
Inhalation		
LC50	Wistar rat	> 259 mg/m ³ , 4 hours
Oral		
LD50	Wistar rat	> 10000 mg/kg > 7000 mg/kg
N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Wistar rat	> 2.1 mg/l, 4 hours
Oral		
LD50	Wistar rat	> 2000 mg/kg
Urea (CAS 57-13-6)		
Acute		
Oral		
LD50	Rat	14300 mg/kg

Skin corrosion/irritation	Prolonged exposure may cause skin irritation.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitisation	
Respiratory sensitisation	No data available.
Skin sensitisation	No data available.
Germ cell mutagenicity	No data available.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	Not available.
Chronic effects	Prolonged exposure may cause chronic effects.
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.

Components		Species	Test results
Dicyandiamide (CAS 461-58-5)			
Aquatic			
<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)			
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
Urea (CAS 57-13-6)			
Aquatic			
Fish	LC50	Leuciscus idus	> 6810 mg/l, 96 hours

Persistence and degradability No data available.

Bioaccumulative potential No data available.

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 data available.

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 established.

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
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

Issue date 04-April-2017

Revision date -

Version No. 01

List of abbreviations EC50: Effective Concentration, 50%.

LC50: Lethal Concentration, 50%.

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

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