

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name AD II
Version # 01
Issue date 11-June-2013
Revision date -
Supersedes date -
CAS # Mixture
MSDS Number KAS_ADII_NA_EN
Product use Fertilizer Coating
Synonym(s) AGROTAIN® Dry Nitrogen Stabilizer * AGROTAIN® Dry
Manufacturer 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. Hazards Identification

Physical state Solid.
Appearance Green powder.
Emergency overview WARNING
 Causes eye irritation. May cause respiratory tract irritation. Possible reproductive hazard - contains material that may cause adverse reproductive effects.
OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects
Routes of exposure Eye contact. Inhalation. Ingestion.
Eyes Causes eye irritation.
Skin Non-irritating to the skin.
Inhalation Inhalation of dusts may cause respiratory irritation.
Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Target organs Eyes. Respiratory system.
Chronic effects Possible risk of impaired fertility.
Signs and symptoms Eye contact may cause irritation with redness, tearing, pain, and/or blurred vision.
Potential environmental effects 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.

3. Composition / Information on Ingredients

Components	CAS #	Percent
N-(n-butyl)-thiophosphoric triamide	94317-64-3	40 - 70
Non-Hazardous Component	Proprietary	30 - 60
Non-hazardous dye	Proprietary	< 3

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**First aid procedures****Eye contact**

Dust in the eyes: Do not rub eyes. Remove contact lenses, if present and easy to do. Flush eyes immediately with large amounts of water. Get medical attention if irritation develops and persists.

Skin contact

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

Inhalation

Remove from area of exposure. For breathing difficulties, oxygen may be necessary. Get medical attention if any discomfort occurs.

Ingestion

Rinse mouth thoroughly. 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.

Notes to physician

Treat symptomatically. The effects might be delayed.

General advice

Keep victim warm. Keep victim under observation. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures**Flammable properties**

The product is not flammable.

Extinguishing media**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.

Protection of firefighters**Specific hazards arising from the chemical**

Fire may produce irritating, corrosive and/or toxic gases.

Protective equipment and precautions for firefighters

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.

Specific methods

Cool material exposed to heat with water spray and remove it if no risk is involved.

6. Accidental Release Measures**Personal precautions**

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stay upwind.

Environmental precautions

Prevent further leakage or spillage if safe to do so.

Methods for containment

Avoid generation and spreading of dust.

Methods for cleaning up

Powder Spills: Cover powder spill with plastic sheet or tarpaulin to minimize spreading and keep powder dry. Shovel into dry containers. Cover and move the containers. Flush the area with water. Avoid the generation of dusts during clean-up.

7. Handling and Storage**Handling**

Avoid exposure - obtain special instructions before use. Wear appropriate personal protective equipment. Avoid generation and spreading of dust. Avoid inhalation of dust and contact with eyes. Avoid prolonged exposure. Handle and open container with care. Wash before eating, drinking and/or smoking.

Storage

Avoid exposure - obtain special instructions before use. Use care in handling/storage. Store in tightly closed original container in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Store in accordance with local/regional/national/international regulation. Keep out of reach of children. 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. ACGIH Threshold Limit Values

Components	Type	Value	Form
Dust (CAS -)	TWA	3 mg/m3 10 mg/m3	Respirable particles. Inhalable particles.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Dust (CAS -)	PEL	5 mg/m3 15 mg/m3	Respirable fraction. Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Dust (CAS -)	TWA	5 mg/m3 15 mg/m3 50 millions of particle 15 millions of particle	Respirable fraction. Total dust. Total dust. Respirable fraction.

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

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

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

Components	Type	Value	Form
Dust (CAS -)	TWA	3 mg/m3 10 mg/m3	Respirable particles. Inhalable

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

Components	Type	Value	Form
Dust (CAS -)	TWA	10 mg/m3	Total dust.

Exposure guidelines Follow standard monitoring procedures.

Engineering controls Provide adequate general and local exhaust ventilation. Provide eyewash station.

Personal protective equipment

Eye / face protection Chemical goggles are recommended.

Skin protection Neoprene gloves. Chemical resistant clothing is recommended. Routinely wash work clothing and protective equipment to remove contaminants.

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.
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.

9. Physical & Chemical Properties

Appearance Green powder.

Physical state Solid.

Form	Powder.
Color	Green.
Odor	Slight amine odor.
Odor threshold	Not available.
pH	7.5 - 8.2 Aqueous solution
Vapor pressure	Not available.
Vapor density	Not available.
Boiling point	Not available.
Melting point/Freezing point	Not available.
Solubility (water)	Soluble.
Specific gravity	Not available.
Flash point	Not applicable.
Flammability limits in air, upper, % by volume	Not applicable.
Flammability limits in air, lower, % by volume	Not applicable.
Auto-ignition temperature	Not available.
Other data	
Density	32.00 - 34.00 lb/ft ³ @ 20 °C
Flammability (solid, gas)	Not applicable.

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal temperature conditions.
Conditions to avoid	Extreme temperatures.
Incompatible materials	Acids. Strong reducing agents. Strong oxidizing agents.
Hazardous decomposition products	Ammonia. Formaldehyde. Hydrogen sulfide. During combustion: Carbon oxides. Nitrogen oxides. Sulfur oxides.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data		
Components	Species	Test Results
N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3)		
Acute		
NOAEL	Rat	445 mg/kg, 1 day
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	> 2823 mg/kg
Sensitization	Not classified as a sensitizer.	
Acute effects	May cause severe irritation to eyes.	
Local effects	Risk of serious damage to eyes. May cause respiratory tract irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.	
Chronic effects	Prolonged exposure may cause chronic effects.	
Carcinogenicity	Not classified.	
Epidemiology	No epidemiological data is available for this product.	
Mutagenicity	Not classified.	
Reproductive effects	Possible reproductive hazard. May damage fertility.	
Teratogenicity	Not classified.	

Symptoms and target organs	Contact may cause eye irritation with redness, tearing, pain, and/or blurred vision.
Further information	Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Components	Species		Test Results
N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3)			
Aquatic			
Crustacea	EC50	Daphnia	290 mg/l, 48 hours
	NOEL	Daphnia	150 mg/l
Fish	LC50	Fish	1140 mg/l, 96 hours
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.		
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.		
Persistence and degradability	The product is not readily biodegradable.		
Bioaccumulation / Accumulation	No data available.		
Mobility in environmental media	The product is soluble in water.		

13. Disposal Considerations

Waste codes	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal instructions	Do not discharge into drains or water courses.
Waste from residues / unused products	Dispose in accordance with all applicable regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT

Not regulated as a hazardous material by DOT.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

TDG

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. N-(n-butyl)-thiophosphoric triamide (NBPT) is subject to a Significant New Use Rule (SNUR) codified in 40 CFR 721.6090.
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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.

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

Not regulated.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
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Section 302 extremely hazardous substance (40 CFR 355, Appendix A)	No
SARA 311/312 Hazardous chemical	Yes
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)	Not controlled
Canadian regulations	This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.
WHMIS status	Controlled
WHMIS classification	D2A - Other Toxic Effects-VERY TOXIC D2B - Other Toxic Effects-TOXIC

WHMIS labeling



Inventory status

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	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).

State regulations	This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.
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US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

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

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Not regulated.

Mexico regulations	This safety data sheet was prepared in accordance with the Official Mexican Standard (NOM-018-STPS-2000).
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16. Other Information

Recommended use	Fertilizer Coating
Recommended restrictions	Use in accordance with supplier's recommendations.
Further information	HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings	Health: 2* Flammability: 2 Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 2
Instability: 0

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.