

# SAFETY DATA SHEET



## SECTION 1: IDENTIFICATION

**Product identifier:** N-Edge® Soil

**Other means of identification: SDS number** - EA0004

**Recommended use:** Fertilizer Coating

**Recommended restrictions:** Use in accordance with supplier's recommendations.

### Manufacturer/Importer/Supplier/Distributor information

**Company name:** CHS Inc.

**Address:** 5500 Cenex Drive  
Inver Grove Heights, MN 55077

**Telephone:** (800) 232-3639  
International Dialing Code 001  
(651) 355-6000

**Emergency:** Call CHEMTREC day or night  
Within USA/Canada 1-800-424-9300  
Outside USA/Canada +1 703-527-3887 (collect calls accepted)

**N-Edge® soil**

## 2. HAZARD(S) IDENTIFICATION

**Health hazards:** Flammable Liquid Category 3  
Skin Irritant Category 2

**Label elements**  
**Hazard symbol(s):**



**Signal word:** Warning

**Hazard statement(s):** Flammable liquid and vapor. Causes skin irritation.

### Precautionary statement(s)

**Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves, protective clothing, eye and face protection. Keep away from heat/sparks/open flame and hot surfaces. No smoking near product or blending area. Keep container grounded and tightly closed. Take precautionary measures against static discharge and use only non-sparking tools.

**Response:** After use, thoroughly wash hands, forearms and face. If exposure on skin, wash with plenty of water. Remove any exposed clothing and wash thoroughly before reuse. In case of fire, use CO<sub>2</sub>, dry powder, sand and/or foam to extinguish.

**Storage:** Store in a well-ventilated place and keep cool.

**Disposal:** Dispose of contents/container to a licensed hazardous waste facility in accordance with all applicable local/state/national/international laws and regulations.

### 3. COMPOSITION OF CHEMICALS (INGREDIENTS)

#### Hazardous components

<u>Chemical name</u>	<u>Common Name</u>	<u>CAS number</u>	<u>%</u>
Dimethyl sulfoxide	DMSO	67-68-5	30-80
Cyanoguanidine		461-58-5	27-29
2 (2-aminoethoxy) ethanol		929-06-6	0.1-5

#### Non-Hazardous components

<u>Chemical name</u>	<u>Common Name</u>	<u>CAS number</u>	<u>%</u>
Non-hazardous dye		Proprietary	0.1-5

**Composition comments:** All concentrations are in percent by weight. Exact percentage values for components are proprietary in accordance with 29 CFR 1910.1200(i). Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

### 4. FIRST-AID MEASURES

- General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.
- Inhalation:** Remove person to fresh air and keep comfortable for breathing. Allow breathing of fresh air and allow to rest.
- Skin contact:** Remove affected clothing and wash all exposed skin area with mild soap and water, following by warm water rinse. Wash skin with plenty of water. If skin irritation occurs, get medical advice.
- Eye contact:** Rinse immediately with plenty of water. If pain, blinking or redness persist, obtain medical attention. Rinse eyes with water as precaution.
- Ingestion:** Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison control center or a doctor if you feel unwell.

### 5. FIREFIGHTING MEASURES

**Suitable extinguishing media:** Carbon Dioxide (CO<sub>2</sub>), Dry Powder, Foam, Water Spray, Sand.

**Unsuitable extinguishing media:** Do not use heavy water stream as an extinguisher.

**Specific hazards arising from the chemical:** Combustible liquid. May form flammable explosive vapor-air mixture. This product is non-reactive under normal conditions of user, storage and transport.

**Special protective equipment and precautions for firefighters:** Firefighters should be equipped with protective clothing and self-contained breathing apparatus to protect against potentially toxic and irritating vapors. In case of fire or explosion, keep unnecessary people away. Isolate hazard area and prevent any entry by non-emergency personnel. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Wear appropriate personal protective equipment. Remove ignition sources. Use special care to avoid static electric charges. No open flames and no smoking in area.

**Methods and materials for containment and cleaning up:** Do not empty into drains or waters. Do not touch or walk through the spilled material; stop leak if you can do it without risk. Take up with sand or other non-combustible absorbent material or suitable vacuum and place in labeled sealable containers. Immediately consult your environmental supervisor.

**Recommended Decontamination Facilities:** Eye bath and water washing facilities.

### 7. HANDLING AND STORAGE

**Precautions for safe handling:** Ensure good ventilation of work and process area to prevent formation of vapor. Wear personal protective equipment and avoid contact with skin and eyes. Wash hands and other exposed area with mild soap and water after handling the product. Keep away from heat, hot surfaces,

sparks, open flames and other ignition sources. No smoking or open flames nearby. Wash all exposed or contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

**Conditions for safe storage, including any incompatibles:** Keep original container tightly closed and in a well-ventilated area. Store in well-ventilated place and in accordance with all applicable local, state, national and international regulations.

## 8. EXPOSURE CONTROL AND PERSONAL PROTECTION

### Control Parameters

N-Edge Soil	
ACGIH	Not Applicable
OSHA	Not Applicable

Dimethyl sulfoxide (67-68-5)	
ACGIH	Not Applicable
OSHA	Not Applicable

2(2-aminoethoxy)ethanol (929-06-6)	
ACGIH	Not Applicable
OSHA	Not Applicable

Cyanoguanidine (461-58-5)	
ACGIH	Not Applicable
OSHA	Not Applicable

**Appropriate engineering controls:** Ensure good ventilation of the work area.

**Individual protection measures, such as personal protective equipment:**

**Eye/face protection:** Protective eye-goggles or safety glasses with side-protection shield.

**Skin and Hand protection:** Long-sleeve shirts, pants, gloves (e.g. polyethylene/ethylene vinyl alcohol) and boots are recommended. Impervious suits are recommended when the potential for dermal contact is significant.

**Respiratory protection:** Wear appropriate mask.

**Other information:** Do not eat, drink or smoke during use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:**

**Physical state:** Liquid

**Color:** Blue

**Odor:** Characteristic odor

**Odor threshold:** No Data Available

**pH:** 7.5-10.5

**Melting point:** Not available

**Freezing point:** 32°F ( $\leq 0^{\circ}\text{C}$ )

**Boiling point:** 372°F ( $\geq 189^{\circ}\text{C}$ )

**Flash point:** 149°F (65°C) Approximate

<b>Other information-Flammability</b>	Does not support combustion at 92°C
<b>Evaporation rate:</b>	Not Available
<b>Flammability (solid, gas):</b>	Not Available
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower:</b>	Not Available
<b>Flammability limit - upper:</b>	Not Available
<b>Explosive limit - lower:</b>	Not Available
<b>Explosive limit - upper:</b>	Not Available
<b>Vapor pressure:</b>	Not Available
<b>Density:</b>	1.164 g/mL
<b>Relative density (Specific gravity):</b>	1.157 @ 20°C (68°F)
<b>Solubilities (water, other):</b>	Soluble (in Water)
<b>Partition coefficient (n-octanol/water):</b>	Not Available
<b>Auto-ignition temperature:</b>	Not Available
<b>Decomposition temperature:</b>	No thermal decomposition is anticipated when stored and handled correctly
<b>Viscosity:</b>	Not Available
<b>Other information</b>	
<b>Bulk density:</b>	Not Available
<b>VOC (Weight %):</b>	Not Available

## **10. STABILITY AND REACTIVITY**

<b>Reactivity:</b>	This product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability:</b>	This product is a combustible liquid and may form flammable/explosive vapor-air mixture.
<b>Possibility of hazardous reactions:</b>	Not known to cause any hazardous reactions.
<b>Conditions to avoid:</b>	Direct sunlight, extreme high or low temperatures, open flame, over heating, heat, sparks. Avoid contact with hot surfaces.
<b>Incompatible materials:</b>	Strong oxidizing and reducing agents. Acids.
<b>Hazardous decomposition Products:</b>	This product contains components which may decompose to release: fume, carbon monoxide, carbon dioxide, and may release flammable gases.

## **11. TOXICOLOGICAL INFORMATION**

### **Information on likely routes of exposure**

<b>Inhalation:</b>	Yes. May cause irritation of the nose, throat and respiratory tract.
<b>Ingestion:</b>	Yes. May cause irritation of the gastrointestinal tract.
<b>Skin:</b>	Yes, skin contact and absorption are possible.
<b>Eye:</b>	Yes. Risk of serious damage to eyes.

**Symptoms related to the physical, chemical, and toxicological characteristics:** May cause serious eye damage. May cause irritation to nose and throat if inhaled. Skin sensitization (an allergic reaction) may develop. Inhalation may lead to dizziness, nausea, unconsciousness and other narcotic effects.

<b>Acute toxicity:</b>	Not classified
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N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3)

Oral LD50 (rat) >2,823 mg/kg  
Dermal LD50 (rat) >2,000 mg/kg  
NOAEL (rat) 445 mg/kg, 1 day

Skin corrosion/irritation Irritating to the skin  
Serious eye damage Causes serious eye damage  
Respiratory sensitization Not classified  
Skin sensitization Not classified  
Germ cell mutagenicity Not classified  
Carcinogenicity Not classified  
Reproductive toxicity Suspected of damaging fertility  
Specific target organ toxicity, single exposure Not classified  
Specific target organ toxicity, repeated exposure Not classified  
Aspiration hazard Not classified  
Chronic effects Prolonged exposure may cause chronic effects  
Further information Symptoms may be delayed

Dimethyl sulfoxide (CAS 67-68-5)

Oral LD50 (male rat) 14,500 mg/kg  
Skin LD50 (rabbit) 5,000 mg/kg  
Inhalation Gas LD50 (rat) 40,250 ppm

Skin corrosion/irritation Not classified  
Serious eye damage Not classified  
Respiratory sensitization Not classified  
Skin sensitization Not classified  
Germ cell mutagenicity Not classified  
Carcinogenicity Not classified  
Reproductive toxicity Not classified  
Specific target organ toxicity, single exposure Not classified  
Specific target organ toxicity, repeated exposure Not classified  
Aspiration hazard Not classified  
Chronic effects Not classified  
Further information Not applicable

Glycerin (CAS 56-81-5)

Oral LD50 (mouse) 23,000 mg/kg  
Skin LD50 (guinea pig) 45 ml/kg  
Inhalation L(Ct)50 (rat) 4,655 mg/min/L 7 hours

Skin corrosion/irritation Not classified  
Serious eye damage Not classified  
Respiratory sensitization Not classified  
Skin sensitization Not classified  
Germ cell mutagenicity Not classified  
Carcinogenicity Not classified  
Reproductive toxicity Not classified  
Specific target organ toxicity, single exposure Not classified  
Specific target organ toxicity, repeated exposure Not classified  
Aspiration hazard Not classified  
Chronic effects Not classified  
Further information Not applicable

## Benzaldehyde (CAS 100-52-7)

Oral LD50 (rat/adult)	1,430 mg/kg
Dermal LD50 (rabbit/adult)	>2,000 mg/kg (based on benzoic acid)
Inhalation LC50 (rat/adult)	>1<5 mg/l (4 hours)

Skin corrosion/irritation	Not classified
Serious eye damage	Category 2A-causes serious eye irritation
Respiratory sensitization	Not classified
Skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity, single exposure	Category 3-may cause respiratory irritation
Specific target organ toxicity, repeated exposure	Not classified
Aspiration hazard	Not classified
Chronic effects	Not classified
Further information	Not applicable

## **12. ECOLOGICAL INFORMATION**

### **Ecology-general:**

Not classified as dangerous for the environment according to the criteria of Directive 67/548/EEC. The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

### **Ingredient Information:**

N-(n-butyl)-thiophosphoric triamide	
LC50, Bluegill ( <i>Lepomis macrochirus</i> )	1,140 mg/l
EC50, 48h, water flea ( <i>Daphnia magna</i> )	290 mg/l
Algae ( <i>Selenastrum capricornutum</i> ) EC50	280 mg/l

Dimethyl sulfoxide	
LC50, rainbow trout, 96h	35,000 mg/l
EC50, water flea ( <i>Daphnia pulex</i> )	27,500 mg/l
EC50, algae ( <i>Lepomis macrochirus</i> ) 96h	>400,000 mg/l

Benzaldehyde	
LC50, fish 96 hour	1.07 mg/l
Algae 96 hour EC50	23.1 mg/l
Invertebrates 48 hour EC50	16.2 mg/l

**Persistence and degradability** Product Data Not Available

**Bioaccumulative potential** Product Data Not Available

**Mobility in soil** Product Data Not Available

**Mobility in general** Product Data Not Available

**Other adverse effects** Product Data Not Available

## **13. DISPOSAL CONSIDERATIONS**

### **Disposal instructions:**

Do not allow this material to drain into sewers or water supplies. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Since emptied containers may retain product residue, follow label warnings even after container is empty. Avoid release into environment.

## 14. TRANSPORT INFORMATION

### In accordance with DOT

#### Transport document description

UN1993 Flammable liquids, n.o.s. (Contains Dimethyl Sulfoxide), 3, III.

#### UN-No.(DOT)

UN1993

#### Proper Shipping Name (DOT)

Flammable liquids, n.o.s.  
Contains Dimethyl Sulfoxide

#### Transport hazard class(es) (DOT)

3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

#### Hazard labels (DOT)

3 - Flammable liquid



#### Packing group (DOT)

III - Minor Danger

#### DOT Packaging Non Bulk (49 CFR 173.xxx)

203

#### DOT Packaging Bulk (49 CFR 173.xxx)

242

#### DOT Symbols

G - Identifies PSN requiring a technical name

#### DOT Special Provisions (49 CFR 172.102)

B1 - If the material has a flash point at or above 38°C (100°F) and below 93°C (200°F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38°C (100°F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.

B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.

IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50°C (1.1 bar at 122°F), or 130 kPa at 55°C (1.3 bar at 131°F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).

T4 - 2.56 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / (1 + a (tr - tf))$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

## 15. REGULATORY INFORMATION

### US Regulations

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

N-(n-butyl)-thiophosphoric triamide (NBPT) is subject to a Significant New Use Rule (SNUR) as specified in 40 CFR 721.6090

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpart D)** N-(n-butyl)-thiophosphoric triamide (NBPT) CAS 94317-64-3 1.0% One-Time Export Notification only.

**CERCLA Hazardous Substance List (40 CFR 302.4)** Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1050)** Not listed.

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

<b>Hazard categories:</b>	Immediate Hazard	-Yes
	Delayed Hazard	-Yes
	Fire Hazard	-No
	Pressure Hazard	-No
	Reactivity Hazard	-No

**SARA 302 Extremely Hazardous Substance:** -No

**SARA 311/312 Hazardous Chemical:** -Yes

**SARA 313 (TRI reporting):** -No

**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:** Not regulated.

### US State Regulations

**California Proposition 65** - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**New Jersey Right To Know Components:**

Dimethyl sulfoxide	CAS 67-68-5
Glycerin	CAS 56-81-5

**Minnesota Right To Know Components:**

Glycerin	CAS 56-81-5
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**Pennsylvania Right To Know Components:**

Propylene glycol	CAS 57-55-6
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### INVENTORIES

Canada	Domestic Substances List (DSL)	All components on inventory.
US	Toxic Substances Control Act (TSCA) Inventory	All components on inventory.

## 16. OTHER INFORMATION

Revision Date: 3-16-2015

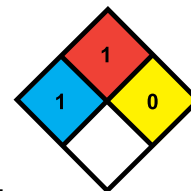
Abbreviations:

EC50-Median effective concentration

LC50-Median lethal concentration

LD50-Lethal dosage

TT(EC3)-Toxicity threshold or effective concentration inducing a stimulation index of 3.





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