

# Safety Data Sheet

Issue Date: 07-Oct-2020

Revision Date: 21-Apr-2021

Version 3

## 1. IDENTIFICATION

### Product identifier

**Product Name** Trident N

### Other means of identification

**SDS #** VLS-324

**Product Code** FFN 4120

### Recommended use of the chemical and restrictions on use

**Recommended Use** Fertilizer.

### Details of the supplier of the safety data sheet

#### **Supplier Address**

Verdesian Life Sciences, U.S., LLC.  
1001 Winstead Drive, Suite 480  
Cary, NC 27513

### Emergency telephone number

**Company Phone Number** Business Phone: (800) 868-6446  
Fax: (919) 535-3652

**Emergency Telephone** INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Appearance** Color characteristic liquid

**Physical state** Liquid

**Odor** Sulfurous, ammonia-like odor

### Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 1B

### Signal Word

**Danger**

### Hazard statements

Causes severe skin burns and eye damage  
Suspected of causing cancer  
May damage 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  
 Use personal protective equipment as required  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Wash face, hands and any exposed skin thoroughly after handling

**Precautionary Statements - Response**

Immediately call a poison center or doctor/physician  
 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 or doctor/physician  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Immediately call a poison center or doctor/physician  
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Alkyl substituted sulfinyl	Proprietary	Proprietary
N-(n-butyl)-thiophosphoric triamide	94317-64-3	1-5
Alkanolamine	Proprietary	Proprietary
Maleated polymer	Proprietary	Proprietary

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

### 4. FIRST AID MEASURES

**Description of first aid measures**

<b>General Advice</b>	Provide this SDS to medical personnel for treatment.
<b>Eye Contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
<b>Skin Contact</b>	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a poison center or doctor/physician.
<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

**Most important symptoms and effects, both acute and delayed**

<b>Symptoms</b>	Causes severe skin burns and eye damage.
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**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Not determined.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Use personal protective equipment as required.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up** Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE****Precautions for safe handling**

**Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. Wash face, hands and any exposed skin thoroughly after handling.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

**Incompatible Materials** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Trade Secret	STEL: 6 ppm TWA: 3 ppm	TWA: 3 ppm TWA: 6 mg/m <sup>3</sup> (vacated) TWA: 3 ppm (vacated) TWA: 8 mg/m <sup>3</sup> (vacated) STEL: 6 ppm (vacated) STEL: 15 mg/m <sup>3</sup>	IDLH: 30 ppm TWA: 3 ppm TWA: 8 mg/m <sup>3</sup> STEL: 6 ppm STEL: 15 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits.

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

**Eye/Face Protection** Wear eye/face protection. Refer to 29 CFR 1910.133 for eye and face protection regulations.

**Skin and Body Protection** Wear protective gloves and protective clothing. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

**Respiratory Protection** Refer to 29 CFR 1910.134 for respiratory protection requirements.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odor</b>	Sulfurous, ammonia-like odor
<b>Appearance</b>	Color characteristic liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Characteristic		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>	10-11		
<b>Melting point / freezing point</b>	Not determined		
<b>Boiling point / boiling range</b>	Not determined		
<b>Flash point</b>	Not determined		
<b>Evaporation Rate</b>	Not determined		
<b>Flammability (Solid, Gas)</b>	Not determined		
<b>Flammability Limit in Air</b>			
<b>Upper flammability or explosive limits</b>	Not determined		
<b>Lower flammability or explosive limits</b>	Not determined		
<b>Vapor Pressure</b>	Not determined		
<b>Vapor Density</b>	Not determined		
<b>Relative Density</b>	Not determined		
<b>Water Solubility</b>	Not determined		
<b>Solubility in other solvents</b>	Not determined		
<b>Partition Coefficient</b>	Not determined		
<b>Autoignition temperature</b>	Not determined		
<b>Decomposition temperature</b>	Not determined		
<b>Kinematic viscosity</b>	Not determined		
<b>Dynamic Viscosity</b>	Not determined		
<b>Explosive Properties</b>	Not determined		
<b>Oxidizing Properties</b>	Not determined		

**Other information**

**Liquid Density** 1.16 g/mL

## 10. STABILITY AND REACTIVITY

**Reactivity**

Not reactive under normal conditions.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Conditions to Avoid**

Keep out of reach of children.

**Incompatible materials**

None known based on information supplied.

**Hazardous decomposition products**

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

**Eye Contact** Causes severe eye damage.

**Skin Contact** Causes severe skin burns.

**Inhalation** Do not inhale.

**Ingestion** Do not ingest.

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Alkyl substituted sulfinyl	= 14500 mg/kg ( Rat ) = 28300 mg/kg ( Rat )	= 40 g/kg ( Rat )	> 5.33 mg/L ( Rat ) 4 h
Dicyandiamide 461-58-5	> 20000 mg/kg ( Rat )	-	-
N-(n-butyl)-thiophosphoric triamide 94317-64-3	> 2823 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	-
Alkanolamine	= 1720 mg/kg ( Rat )	= 1 mL/kg ( Rabbit ) = 1000 mg/kg ( Rabbit )	-

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** Please see section 4 of this SDS for symptoms.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Carcinogenicity** Suspected of causing cancer.

**Reproductive toxicity** May damage fertility or the unborn child.

**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document .

<b>Oral LD50</b>	9,941.50 mg/kg
<b>Dermal LD50</b>	11,584.90 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	30.00 mg/L

**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.

**Component Information**

Chemical name	Algae/aquatic plants	Fish	Crustacea
Alkyl substituted sulfinyl	12350 - 25500: 96 h Skeletonema costatum mg/L EC50	34000: 96 h Pimephales promelas mg/L LC50 33 - 37: 96 h Oncorhynchus mykiss g/L LC50 static 41.7: 96 h Cyprinus carpio g/L LC50 40: 96 h Lepomis macrochirus g/L LC50 static	7000: 24 h Daphnia species mg/L EC50
N-(n-butyl)-thiophosphoric triamide 94317-64-3		1140: 96 h Lepomis macrochirus mg/L LC50 static	
Alkanolamine	15: 72 h Desmodemus subspicatus mg/L EC50	300 - 1000: 96 h Lepomis macrochirus mg/L LC50 static 227: 96 h Pimephales promelas mg/L LC50 flow-through 200: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 3684: 96 h Brachydanio rerio mg/L LC50 static 114 - 196: 96 h Oncorhynchus mykiss mg/L LC50 static	65: 48 h Daphnia magna mg/L EC50

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

There is no data for this product.

**Mobility**

Chemical name	Partition coefficient
Alkyl substituted sulfinyl	-2.03
Alkanolamine	-1.91

**Other Adverse Effects**

Not determined

**13. DISPOSAL CONSIDERATIONS****Waste Treatment Methods****Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

## 14. TRANSPORT INFORMATION

**Note** Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

### DOT

**UN/ID No** UN1760  
**Proper Shipping Name** Corrosive Liquid, n.o.s. (N-(n-butyl)thiophosphoric triamide, contains alkanolamine)  
**Hazard class** 8  
**Packing Group** II

### IATA

**UN number** UN1760  
**Proper Shipping Name** Corrosive Liquid, n.o.s. (N-(n-butyl)thiophosphoric triamide, contains alkanolamine)  
**Transport hazard class(es)** 8  
**Packing Group** II

### IMDG

**UN number** UN1760  
**Proper Shipping Name** Corrosive Liquid, n.o.s. (N-(n-butyl)thiophosphoric triamide, contains alkanolamine)  
**Transport hazard class(es)** 8  
**Packing Group** II

## 15. REGULATORY INFORMATION

### International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Trade Secret	X	ACTIVE	X	X	X	X	X	X	X
Dicyandiamide	X	ACTIVE	X	X	X	X	X	X	X
N-(n-butyl)-thiophosphoric triamide	X	ACTIVE	X	X					X
Trade Secret	X	ACTIVE	X	X	X	X	X	X	X
Trade Secret	X	ACTIVE	X		X	X	X		X

#### **Legend:**

*TSCA* - United States Toxic Substances Control Act Section 8(b) Inventory  
*DSL/NDSL* - Canadian Domestic Substances List/Non-Domestic Substances List  
*EINECS/ELINCS* - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
*ENCS* - Japan Existing and New Chemical Substances  
*IECSC* - China Inventory of Existing Chemical Substances  
*KECL* - Korean Existing and Evaluated Chemical Substances  
*PICCS* - Philippines Inventory of Chemicals and Chemical Substances  
*AICS* - Australian Inventory of Chemical Substances

### US Federal Regulations

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Trade Secret	X		
Trade Secret	X	X	X

**16. OTHER INFORMATION****NFPA****Health Hazards**

Not determined

**Flammability**

Not determined

**Instability**

Not determined

**Special Hazards**

Not determined

**HMIS****Health Hazards**

Not determined

**Flammability**

Not determined

**Physical hazards**

Not determined

**Personal Protection**

Not determined

**Issue Date:** 07-Oct-2020

**Revision Date:** 21-Apr-2021

**Revision Note:** Section 14

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**