

35% NBPT/DCD/VLS Polymer Blend

# **Features and Benefits**

- VLS polymer powerful negative charge that slows the bacterial enzymes ability to break down nitrogen to hold your nitrogen in a stable ammonium form longer
- NBPT is a urease inhibitor proven to control ammonia volatilization
- DCD (Dicyandiamide) nitrification inhibitor, slows the activity of the Nitrosomonas bacteria preventing the release of nitrogen available forms that are prone to leaching
- NBPT and DCD were used as ring opening agents to react with the VLS polymer in a proprietary organic solvent system.
- This patent pending technology protects NBPT with VLS polymer to allow for low rate application and less chemical load to soil
- 1.5 2.5 Quarts / Ton of UAN fertilizer
- Unique formulation with 3 MOAs to protect against 3 forms of Nitrogen loss
  - 1. Volatilization (Loss of NH3 form when converting urea to NO3)
  - 2. Nitrification (Leaching of NO3 out of the root zone)
  - 3. Denitrification (loss of N2 gas to atmosphere in too wet conditions)



Central Valley Ag 2803 N Nebraska York, NE 68467-0429

# *KELITE PROTECT UAN*

CVA ELITE PROTECT UAN is a volatilization and nitrification inhibitor with multiple modes of action that manages and protects liquid UAN nitrogen fertilizers from potential loss. CVA ELITE PROTECT UAN is used to delay the nitrification of ammoniacal and urea nitrogen fertilizers by inhibiting the oxidation of ammoniacal nitrogen to nitrate nitrogen when UAN solutions are placed at or below the soil surface. CVA ELITE PROTECT UAN is used as a urease inhibitor by its ability to impede the hydrolysis of urea when urea is placed at or near the soil surface. Multiple components found in CVA ELITE PROTECT UAN include a proven polymer technology known to increase Nutrient Use Efficiency (NUE).

#### **GUARANTEED ANALYSIS**

#### NON-PLANT FOOD INGREDIENTS

Active Ingredient:

5% ......N-(n-butyl) thiophosphoric triamide (NBPT) 20% ..... Dicyandiamide (DCD) Other Ingredients:

75% ...... Solvent and co-polymer blend

NOT RECOMMENDED FOR USE AS A FERTILIZER SUBSTITUTE.

#### DANGER

Causes severe skin burns and eve damage. Suspected of causing cancer. May damage fertility or the unborn child.



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. 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,

Store locked up. Dispose of contents/container to an approved waste disposal plant.

#### GENERAL INFORMATION

CVA ELITE PROTECT UAN works best when thoroughly mixed with liquid UAN nitrogen fertilizers that are to be applied to the soil.

Nitrogen fertilizer mixed (in liquid fertilizer) with CVA ELITE PROTECT UAN should be applied to the soil in the same manner as nitrogen fertilizers without CVA ELITE PROTECT UAN.

NOTE: When using CVA ELITE PROTECT UAN, if different farming methods from those normally used are tried, test strips are recommended until such new methods have been proven to be effective.

#### SOIL TYPES AND CROPS

CVA ELITE PROTECT UAN may be used with any crop and in any soil type whereas best management practices recommend the use of various nitrogen fertilizers available.

CVA ELITE PROTECT UAN can be used for corn, cotton, canola, rice, small grains, sorghum, and wheat where a volatilization, urease, and/ or nitrification inhibitor are deemed beneficial, and the nitrogen fertilizer is placed on or below the soil surface.

#### MIXING INSTRUCTIONS

The quality and composition of nitrogen fertilizers varies greatly. Before evenly blending CVA ELITE PROTECT UAN with nitrogen fertilizers, those fertilizers should be "batch tested" to determine compatibility with CVA ELITE PROTECT UAN. CVA ELITE PROTECT UAN may not be compatible with other fertilizer additives. It is recommended that a jar test be conducted, mixing the additives at the same ratios as to be field applied. "316" stainless steel pumps and attachments are recommended. When seals are used, seals made of fluoro-elastomeric materials such as GORE-TEX®, TEFLON® or VITON® are required.

#### FOR MIXING WITH UREA-AMMONIUM NITRATE (UAN) SOLUTIONS

Follow general industry suggestions for mixing by filling the sprayer or tender tank approximately half full of a urea ammonium nitrate (UAN) fertilizer and begin the agitation system. Then add the appropriate amount of CVA ELITE PROTECT UAN to the tank followed by any additional UAN needed to complete the batch.

#### TREATMENT RATE

Thoroughly blend CVA ELITE PROTECT UAN in liquid UAN fertilizer at rates of \*1.0-2.5 quarts CVA ELITE PROTECT UAN per ton.

\*1.0 gt per ton application is for IN-SEASON applications only (top dress, side dress, or fertigation).

#### USE PRECAUTIONS **KEEP OUT OF THE REACH OF CHILDREN**

Do not use CVA ELITE PROTECT UAN as a seed treatment. CVA ELITE PROTECT UAN can be used as a fertilizer additive for infurrow planting. CVA ELITE PROTECT UAN may not be compatible with other fertilizer additives. It is recommended that a jar test be conducted, mixing at the same ratios as to be field applied. Read the SDS and label before use, including but not limited to "USE PRECAUTIONS" and "Warranty". Always wear proper personal protection and follow instructions for treatment and application. Use according to label directions.

Do not contaminate waterways and sewers during cleaning of equipment or disposal of wastes, always adhering to applicable provisions of federal, state, and local laws and regulations. Completely empty contents into application equipment. Dispose of empty container by depositing in sanitary landfills, or as required by law. Do not reuse containers. Observe all warnings on label, Read the Safety Data Sheet prior to use.

#### STORAGE, HANDLING AND DISPOSAL

Avoid exposure – use care in handling/storage/disposal activities. Always wear appropriate chemical mixing personal protective equipment (PPE) including eye/face and hand protection. Keep containers tightly closed in a dry, cool, and well-ventilated place that meet or exceed governmental regulation guidelines. Keep product from prolonged freezing conditions. Store at temperatures between 20°F and 100°F. If the product is subjected to temperatures below 20°F for a prolonged period, the product should be moved to conditions above freezing and agitated for 30 minutes after it is warm and again prior to use. At this point, the product will return to its normal liquid state and may be used normally. No degradation of active ingredient will occur with the product that has been frozen. Avoid storage in high temperatures. Once a container is opened it is recommended to utilize its contents within thirty days.

Dispose of empty containers according to federal, state, and local regulations.

Contact your Central Valley Ag representative with any questions on storage, mixing, blending, or disposal.

#### LIMITED WARRANTY

Central Valley Ag warrants that this Product conforms to the specifications set forth on the label. This Product is reasonably fit for the purpose stated on the label when used in accordance with the label directions and instructions under normal conditions of use.

CENTRAL VALLEY AG NEITHER MAKES. NOR AUTHORIZES ANY AGENT, REPRESENTATIVE OR THIRD PARTY TO MAKE ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, STATUTORY OR OTHER-WISE, AS TO THE CONDITION, QUALITY, FITNESS, OR PERFOR-MANCE OF THIS PRODUCT AND HEREBY DISCLAIMS AND EXCLUDES ALL SUCH WARRANTIES. INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PUR-POSE. The use of this Product contrary to label instructions or under abnormal conditions not foreseeable to the Seller or Central Valley Aq voids this limited warranty.

Limitation of Remedies. The exclusive remedy for losses or damages resulting from this Product (including claims based on contract, negligence, strict liability or other legal theories), shall be limited to, at Central Valley Ag's election, one of the following: (1) replacement of the amount of product used: or (2) refund of the purchase price paid for the product; provided that Central Valley Ag's provision of (1) or (2) is conditioned on it first being promptly notified of such loss or damage in writing. Central Valley Ag shall not be liable to the buyer or any other party claiming by, through, or under the buyer for any other losses or damages resulting or relating to this Product, including but not limited to any direct, indirect, special, punitive, economic, incidental or consequential damages or loss of profits or revenue, whether in contract, tort or otherwise. Central Valley Ag neither assumes, nor authorizes any person to assume for it, any other liability in connection with the sale, storage, use or handling of this product other than expressly set forth herein.

This product is guaranteed by: Central Valley Ag | 2803 N. Nebraska, PO Box 429, York, NE 68467-0429 | Customer Service: 1-888-343-0323 Gore-Tex®, Teflon®, Viton® are registered trademarks of The Chemours Company FC.

#### Contents: Bulk | Density: 9.66 lbs./gal (1.16 kg/L) at 68 °F (20 °C) | Inv. ID: 20006036-000



# **Safety Data Sheet**

Issue Date: 19-Nov-2020 Revision Date: 27-Apr-2021 Version 3 **1. IDENTIFICATION** Product identifier **Product Name** CVA ELITE PROTECT UAN Other means of identification SDS # VLS-324-ABN2 **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 Central Valley Ag 2803 N. Nebraska PO Box 429 York, NE 68467-0429 Emergency telephone number **Company Phone Number** Business Phone: 888-343-0323 FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE EXPOSURE, OR ACCIDENT, CALL: **Emergency Telephone** CHEMTREC (USA) 1-800-424-9300 MEDICAL EMERGENCY 1-877-424-7452 2. HAZARDS IDENTIFICATION Appearance Color characteristic liquid Physical state Liquid Odor Sulfurous, ammonia-like odor **Classification** Category 1 Sub-category B Skin corrosion/irritation Serious eye damage/eye irritation Category 1 Category 2 Carcinogenicity 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**

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	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.
Skin Contact	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.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.
Most important symptoms and effe	ects, both acute and delayed
Symptoms	Causes severe skin burns and eye damage.

#### 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.
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#### 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	IDLH: 30 ppm
	TWA: 3 ppm	TWA: 6 mg/m <sup>3</sup>	TWA: 3 ppm
		(vacated) TWA: 3 ppm	TWA: 8 mg/m <sup>3</sup>
		(vacated) TWA: 8 mg/m <sup>3</sup>	STEL: 6 ppm
		(vacated) STEL: 6 ppm	STEL: 15 mg/m <sup>3</sup>
		(vacated) 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, su	ich 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.
<b>Respiratory Protection</b>	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

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

#### Oxidizing Properties Other information Liquid Density

Not determined

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 .

 Oral LD50
 9,941.50 mg/kg

 Dermal LD50
 11,584.90 mg/kg

 ATEmix (inhalation-dust/mist)
 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	34000: 96 h Pimephales promelas	7000: 24 h Daphnia species mg/L
	costatum mg/L EC50	mg/L LC50 33 - 37: 96 h	EC50
		Oncorhynchus mykiss g/L LC50	
		static 41.7: 96 h Cyprinus carpio g/L	
		LC50 40: 96 h Lepomis macrochirus	
		g/L LC50 static	
N-(n-butyl)-thiophosphoric triamide		1140: 96 h Lepomis macrochirus	
94317-64-3		mg/L LC50 static	
Alkanolamine	15: 72 h Desmodesmus subspicatus	300 - 1000: 96 h Lepomis	65: 48 h Daphnia magna mg/L
	mg/L EC50	macrochirus mg/L LC50 static 227:	EC50
		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	

#### Persistence/Degradability

Not determined.

#### **Bioaccumulation**

There is no data for this product.

#### <u>Mobility</u>

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**

<u>Note</u>	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
DOT UN/ID No Proper Shipping Name Hazard class Packing Group IATA UN number Proper Shipping Name Transport hazard class(es) Packing Group	UN1760 Corrosive Liquid, n.o.s. (N-(n-butyl)thiophosphoric triamide, contains alkanolamine) 8 II UN1760 Corrosive Liquid, n.o.s. (N-(n-butyl)thiophosphoric triamide, contains alkanolamine) 8 II
<u>IMDG</u> UN number Proper Shipping Name Transport hazard class(es) Packing Group	UN1760 Corrosive Liquid, n.o.s. (N-(n-butyl)thiophosphoric triamide, contains alkanolamine) 8 II

# **15. REGULATORY INFORMATION**

#### International Inventories

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

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	ame New Jersey		Massachusetts	Pennsylvania		
Trade Secret		x				
Trade Secret		Х	Х	Х		
		16. OTHER INFO	ORMATION			
<u>NFPA</u>			Instability	Special Hazards		
<u>HMIS</u>	Not determined <b>Health Hazards</b> Not determined	Not determined Flammability Not determined	Not determined <b>Physical hazards</b> Not determined	Not determined <b>Personal Protection</b> Not determined		
Issue Date:	19-Nov-	2020				
Revision Date:	27-Apr-2	27-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