SAFETY DATA SHEET

Clipless® NT This safety data sheet complies with the requirements of: Regulation (EC) No. 453/2010 and Regulation (EC) No. 1272/2008



SDS # : FO004088-A Revision date: 2018-11-05 Format: EU Version 1

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Code(s)	FO004088-A
Product Name	Clipless® NT
Synonyms	8810-02, TRINEXAPAC-ETHYL 120 g/I ME
1.2. Relevant identified uses of the	substance or mixture and uses advised against
Recommended Use:	Plant growth regulator
Restrictions on Use:	Use as recommended by the label.
1.3. Details of the supplier of the sa	fety data sheet
<u>Supplier</u>	CHEMINOVA A/S, a subsidiary of FMC Corporation Thyborønvej 78 DK-7673 Harboøre Denmark +45 9690 9690 SDS.Ronland@fmc.com
For further information, please contact	t:
Contact point 1.4. Emergency telephone number	(+45) 97 83 53 53 (24 h; for emergencies only)
Emergency telephone	Medical emergencies:
	Austria: +43 1 406 43 43 Belgium: +32 70 245 245 Bulgaria: +359 2 9154 409 Cyprus: 1401 Czech Republic: +420 224 919 293, +420 224 915 402 Denmark: +45 82 12 12 12 France: +33 (0) 1 45 42 59 59 Finland: +358 9 471 977 Greece: 30 210 77 93 777 Hungary: +36 80 20 11 99 Ireland (Republic): +352 1 809 2166 Italy: +39 02 6610 1029 Lithuania: +370 523 62052, +370 687 53378 Luxembourg: +352 8002 5500 Netherlands: +31 30 274 88 88 Norway: +47 22 591300 Poland: +48 22 619 66 54, +48 22 619 08 97 Portugal: 808 250 143 (in Portugal only), +351 21 330 3284 Romania: +40 21318 3606 Slovakia: +421 2 54 77 4 166 Slovenia: +386 41 650 500 Spain: +34 91 562 04 20 Page 1/11

Sweden: +46 08-331231112 Switzerland: 145 United Kingdom: 0870 600 6266 (in the UK only) U.S.A. & Canada: +1 800 / 331-3148 All other countries: +1 651 / 632-6793 (Collect)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture Regulation (EC) No 1272/2008

Chronic aquatic toxicity

Category 3

2.2. Label elements

Hazard pictograms Signal Word None

Hazard Statements

H412 - Harmful to aquatic life with long lasting effects EUH401 - To avoid risks to human health and the environment, comply with the instructions for use

Precautionary Statements

P273 - Avoid release to the environment P501: Dispose of contents/container as hazardous waste.

2.3. Other hazards

None of the ingredients in the product meets the criteria for being PBT or vPvB.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

The product is a mixture, not a substance.

Chemical name	EC-No	CAS-No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Trinexapac-ethyl	-	95266-40-3	11.8	Aquatic Chronic 2 (H411)	No data available
2-Methoxymethylethox y)propanol	252-104-2	34590-94-8	60-70	Not classified	01-2119450011-60

Additional Information

For the full text of the H- and EUH- phrases mentioned in this Section, see Section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
Skin Contact	Immediately flush with plenty of water while removing contaminated clothing and/or shoes, and thoroughly wash with soap and water. In the case of skin irritation or allergic reactions see a physician.
Inhalation	Move to fresh air. If person is not breathing, contact emergency medical services, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or Page 2/11

doctor for further treatment advice.

Ingestion Rinse mouth with water. Do NOT induce vomiting. If vomiting does occur, rinse mouth and drink fluids again.

4.2. Most important symptoms and effects, both acute and delayed

Most important symptoms and	To our knowledge, adverse effects in humans have not been reported.
effects, both acute and delayed	

4.3. Indication of any immediate medical attention and special treatment needed

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: A specific antidote for exposure to this material is not known. Gastric lavage and/or the administration of activated charcoal can be considered. After decontamination, treatment should be directed at the control of symptoms and the clinical condition.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

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

Small Fire Dry chemical, Carbon dioxide (CO₂).

Large Fire Water spray, Foam.

Unsuitable extinguishing media

Avoid heavy hose streams.

5.2. Special hazards arising from the substance or mixture

The essential breakdown products are carbon monoxide and carbon dioxide.

5.3. Advice for firefighters

Cool containers / tanks with water spray. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Dike to prevent runoff. As in any fire, wear self-contained breathing apparatus and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions

It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.

In case of large spill (involving 10 tonnes of the product or more):

Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and rubber boots. Stop the source of the spill immediately if safe to do so. Keep unprotected persons away from the spill area.

For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for Containment	It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. Use non-sparking tools and equipment. If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should immediately be swept up or preferably vacuumed up using equipment with high efficiency final filter. Transfer to suitable containers. Clean area with detergent and much water. Absorb wash liquid onto inert absorbent such as universal binder, Fuller's earth, bentonite or other absorbent clay and collect in suitable containers. The used containers should be properly closed and labelled.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

6.4. Reference to other sections

See Section 8 "Exposure Controls/Personal Protection" for specific details. See section 13 for disposal information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

In an industrial environment it is recommended to avoid all personal contact with the product, if possible by using closed systems with remote system control. Otherwise it is recommended to handle the material by mechanical means as much as possible. Adequate ventilation or local exhaust ventilation is required. The exhaust gases should be filtered or treated otherwise. For personal protection in this situation, see section 8. Remove contaminated clothing and shoes. Wash thoroughly after handling. Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks. Do not discharge to the environment. Do not contaminate water when disposing of equipment wash waters. Collect all waste material and remains from cleaning equipment, etc., and dispose of as hazardous waste. See section 13 for disposal.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage

The product is stable under normal conditions of warehouse storage. Keep in properly labeled containers. To maintain product quality, do not store in heat or direct sunlight. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

7.3. Specific end use(s)

Specific Use(s)

The product is a registered pesticide which may only be used for the applications it is registered for, in accordance with a label approved by the regulatory authorities.

Risk Management Methods (RMM)

The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

To our knowledge, personal exposure limits have not been established for the active ingredient in this product.

(2-Methoxy- methyl- ethox	y)- propanol				
ACGIH (USA) TLV 2015	TWA: 100 ppm (606	mg/m ³), STEL: 150 p	opm (909 mg/m³), Ski	n notation	
	OSHA	(USA) PEL 20	15 TWA: 100 ppm (6	00 mg/m ³), Skin nota	ition
	EU, 20	00/39/EC 200	9 8-hr TWA 50 ppm	(308 mg/m ³), Skin n	otation
	as ame	ended			
	Germa	ny, MAK 2014	1 50 ppm (310 mg/ m	n3), Peak limitation: 5	60 ppm (310 mg/ m3)
	HSE (L	JK) WEL 201	1 8-hr TWA 50 ppm	(308 mg/m ³), Skin ne	otation
Chemical name	European Union	The United Kingdom	France	Spain	Germany

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						Version 1	
2-Methoxymethylethoxy)pro panol 34590-94-8	TWA 50 TWA 308 S*		STEL 150 ppm STEL 924 mg/m ³ TWA 50 ppm TWA 308 mg/m ³ Skin	TWA 50 ppm TWA 308 mg/m³ P*	TWA 50 ppm TWA 308 mg/m³ S*	-	
Chemical name	Ital	y	Portugal	The Netherlands	Finland	Denmark	
2-Methoxymethylethoxy)pro panol 34590-94-8	TWA 50 TWA 308 Pelle) ppm mg/m³	TWA 50 ppm TWA 308 mg/m ³ STEL 150 ppm P*	TWA 300 mg/m ³	TWA 50 ppm TWA 310 mg/m ³ iho*	TWA 50 ppm TWA 309 mg/m³ H*	
Chemical name	Aust	ria	Switzerland	Poland	Norway	Ireland	
2-Methoxymethylethoxy)pro panol 34590-94-8	H* STEL 100 ppm STEL 614 mg/m ³ TWA 50 ppm TWA 307 mg/m ³		TWA 50 ppm TWA 300 mg/m ³ STEL 50 ppm STEL 300 mg/m ³	TWA 240 mg/m ³ STEL 480 mg/m ³	TWA 50 ppm TWA 300 mg/m ³ S* STEL 75 ppm STEL 375 mg/m ³	TWA 50 ppm TWA 308 mg/m ³ STEL 150 ppm STEL 924 mg/m ³ Skin	
Derived No Effect Level (DNEL)		pac-ethyl: 0.34 mg/kg				
Derived No Effect Level (DNEL)	(2-Meth	oxymethylethoxy)prop	panol			
dermal		65 mg/k	g bw/day				
INHALATION		310 mg	/m ³				
Predicted No Effect Cond (PNEC)	centration	Trinexa	pac-ethyl:				
(FNEC)		aquatic environment 41µg/l					
		(2-Methoxymethylethoxy)propanol:					
fre		freshwater19 mg/l					
	marine		marine water1.9 mg/l.				
8.2. Exposure controls							
Engineering measures		confine	Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.				
Personal protective eq	quipment						
Eye/Face Protection		Wear face mask rather than goggles or safety glasses. The possibility of eye contact s be excluded. The work area and storage formulation area must have emergency eyew and showers.					
Hand Protection		Use protective gloves made of chemical materials such as nitrile or neoprene. Wash t outside of gloves with soap and water before reuse. Check regularly for leaks.					
Skin and Body Protec	ction	Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the materic cannot be avoided for a limited time span, waterproof pants and apron of chemical rematerial or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of appreciable or prolonged exposure, coveralls of barrier laminate may be required.			e to the material of chemical resistant PE must be		
Respiratory Protectio	on	The product does not automatically present an airborne exposure concern during r handling. In the event of an accidental discharge of the material which produces a vapour or mist, workers should put on officially approved respiratory protection equ with a universal filter type including particle filter.			produces a heavy		

Environmental exposure controls Do not release to the environment.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical a	
Physical State	Liquid
Appearance	Yellow to brown
Odor	Ester-like
Color	No information available
Odor threshold	No information available
рН	No information available
Melting point/freezing point	No information available
Boiling Point/Range	Not determined
Trinexapac-ethyl: Decomposes Startir	ng at 310°C
Flash point	81 °C Seta Closed Cup
Evaporation Rate	No information available
Flammability (solid, gas)	Not applicable
Flammability Limit in Air	
Upper flammability limit:	14 vol% ((2-Methoxymethylethoxy)propanol)
Lower flammability limit:	1.1 vol% ((2-Methoxymethylethoxy)propanol)
Vapor pressure	Trinexapac-ethyl: 2.16 x 10 ⁻³ Pa (25°C)
	(2-Methoxymethylethoxy)propanol: 0.037 kPa at 20°C
Vapor density	(2-Methoxymethylethoxy)propanol: 5.11 at 20°C
Specific gravity	No information available
Water solubility	Trinexapac-ethyl: 1.1 g/l at pH 3.5 (25°C)
	2.8 g/l at pH 4.9 (25°C)
	10.2 g/l at pH 5.5 (25°C)
	21.1 g/l at pH 8.2 (25°C)
Solubility in other solvents	Trinexapac-ethyl: acetone > 500 g/l (25° C)
	hexane 45 g/l (25°C)
Partition coefficient	Trinexapac-ethyl: log Kow = 1.5 at pH 5 (25°C)
	log Kow = -0.29 at pH 6.9 (25°C)
	log Kow = -2.1 at pH 8.9 (25°C)
Autoignition temperature	215 °C
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	20.2 mPa.s (20°C)
	14.7 mPa.s (40°C)
Explosive properties	Not explosive.
Oxidizing properties	Non-oxidizing.
9.2. Other information	
Softening point	No information available
Molecular weight	No information available
VOC content (%)	No information available
Relative density	1.016 (20°C)
	No information available
KIIK density	
Bulk density Kst	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

To our knowledge, the product has no special reactivities.

10.2. Chemical stability

The product is stable during normal handling and storage at ambient temperatures.

Explosion data Sensitivity to Mechanical Impact None known. Sensitivity to Static Discharge None known.

10.3. Possibility of hazardous reactions

Hazardous polymerization

Hazardous polymerization does not occur.

Hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Heating can release hazardous gases.

10.5. Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases.

10.6. Hazardous decomposition products

See Section 5 for more information.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information

Product does not present an acute toxicity hazard based on known or supplied information.

LD50 Oral LD50 Dermal LC50 Inhalation	 > 2000 mg/kg (rat) (Method OECD 425) > 4000 (rabbit) mg/kg (Method: OECD 402) > 4.86 mg/L 4 hr (rat) (Method: OECD 403)
Skin corrosion/irritation Serious eye damage/eye irritation Sensitization Mutagenicity Carcinogenicity	No skin irritation. (Method: OECD 404). No eye irritation. (Method: OECD 405). Not a skin sensitizer (Method OECD 429) The product contains no ingredients known to be mutagenic. The product contains no ingredients known to be carcinogenic.
Reproductive toxicity STOT - single exposure STOT - repeated exposure Symptoms	The product contains no ingredients known to have adverse effects on reproduction. No specific effects after single exposure have been observed. Trinexapac-ethyl: NOAEL: 500 ppm (34 mg/kg bw/day), 90-day, rat (Method OECD 408). To our knowledge, adverse effects in humans have not been reported. In animal tests, reduced activity and shortness of breath were seen at high dosage.
Aspiration hazard	The product does not present an aspiration pneumonia hazard.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity	The ecotoxicity of the product is measured as:
	- Fish
	Rainbow trout (Oncorhynchus mykiss)96-h LC50: 20.1 mg/l - Invertebrates
	Daphnids (Daphnia magna)48-h EC50: > 100 mg/l - Algae
	Green algae (Pseudokirchneriella subcapiata)72-h EC50: 175 mg/l - Aquatic plants
	Duckweed (Lemna gibba)7-day EC50: 584 mg/l

12.2. Persistence and degradability

Trinexapac-ethyl: Not readily biodegradable.

The product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

12.3. Bioaccumulative potential

See section 9 for n-octanol/water partition coefficient.

Bioconcentration factor (BCF) 6 (trinexapac-ethyl, whole fish)

12.4. Mobility in soil

Mobility in soil Trinexapac-ethyl: Moderately mobile.

12.5. Results of PBT and vPvB assessment

None of the ingredients in the product meets the criteria for being PBT or vPvB.

12.6. Other adverse effects

None known.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products	Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste. Dispose of as hazardous waste in compliance with local and national regulations. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated Packaging	It is recommended to consider possible ways of disposal in the following order:
	1. Reuse or recycling should first be considered. Reuse is prohibited except by the authorisation holder. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems.
	2. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.
	3. Delivery of the packaging to a licensed service for disposal of hazardous waste.
	4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill containers should be emptied completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

Section 14: TRANSPORT INFORMATION

IMDG/IMO Not classified UN/ID no 14.2 Proper Shipping Name 14.3 Hazard class 14.4 Packing Group 14.5 Marine Pollutant Environmental Hazard 14.6 Special Provisions 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not regulated Not regulated Not regulated Not regulated Not applicable The product is harmful to aquatic organisms. Do not release to the environment The product is not transported in bulk by ship.
<u>RID</u> Not classified UN/ID no 14.2 Proper Shipping Name 14.3 Hazard class 14.4 Packing Group 14.5 Environmental Hazard 14.6 Special Provisions	Not regulated Not regulated Not regulated Not regulated The product is harmful to aquatic organisms. Do not release to the environment.
ADR/RID Not classified UN/ID no 14.2 Proper Shipping Name 14.3 Hazard class 14.4 Packing Group 14.5 Environmental Hazard 14.6 Special Provisions	Not regulated Not regulated Not regulated Not regulated The product is harmful to aquatic organisms. Do not release to the environment
ICAO/IATA Not classified UN/ID no 14.2 Proper Shipping Name 14.3 Hazard class 14.4 Packing Group 14.5 Environmental Hazard 14.6 Special Provisions	Not regulated Not regulated Not regulated Not regulated The product is harmful to aquatic organisms. Do not release to the environment

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not Applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not Applicable

International Inventories

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Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINC S (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
2-Methoxymethylethoxy)pr opanol 34590-94-8	Х	Х	Х	Х	Х	Х	Х	Х

15.2. Chemical safety assessment

A chemical safety assessment is not required to be included for this product.

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under sections 2 and 3

H411 - Toxic to aquatic life with long lasting effects

H412 - Harmful to aquatic life with long lasting effects

EUH401 - To avoid risks to human health and the environment, comply with the instructions for use

Legend ADR: CAS: Ceiling: DNEL: EINECS: GHS: IATA: ICAO: IMDG: LC50:	European Agreement concerning the International Carriage of Dangerous Goods by Road CAS (Chemical Abstracts Service) Maximum limit value: Derived No Effect Level (DNEL) EINECS (European Inventory of Existing Chemical Substances) Globally Harmonized System (GHS) International Air Transport Association (IATA) International Civil Aviation Organization International Maritime Dangerous Goods (IMDG)
LC50: LD50: PBT: RID: STEL: SVHC TWA: vPvB:	LC50 (lethal concentration) LD50 (lethal dose) Persistent, Bioaccumulative, and Toxic (PBT) Chemicals Regulations Concerning the International Transport of Dangerous Goods by Rail Short term exposure limit SVHC: Substances of Very High Concern for Authorization: time weighted average very Persistent and very Bioaccumulative
Classification procedure Calculation method	
Revision date:	2018-11-05
Reason for revision:	Format Change.
Training Advice	This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.

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Prepared By:

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