



syngenta

MODDUS® is an emulsifiable concentrate containing 250g/l (25.5% w/w) trinexapac-ethyl per litre.

FOR USE ONLY AS AN AGRICULTURAL GROWTH REGULATOR

MODDUS® is a growth regulator for winter and spring wheat, winter and spring barley, winter and spring oats, durum wheat, rye, triticale, and grassland (seed crops).

PLEASE SEE ACCOMPANYING LEAFLET FOR PRODUCT USE DETAILS.

IN CASE OF TOXIC OR TRANSPORT EMERGENCY RING  
+44 (0) 1484 538444 ANYTIME (24HR).

PROTECT FROM FROST  
SHAKE WELL BEFORE USE



Authorisation Holder	Marketing Company
Syngenta UK Ltd CPC 4, Capital Park, Fulbourn, Cambridge CB21 5XE Tel: +44 (0) 1223 883400	Syngenta Ireland Limited Block 6, Cleaboy Business Park, Old Kilmeaden Road, Waterford, Ireland Tel: (051) 377203

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1 Litre

Lxxxxxx IREL/10B PPE xxxxxxx 11/2016

FOR PROFESSIONAL USE ONLY

To avoid risks to human health and the environment comply with the instructions for use.  
MODDUS is an emulsifiable concentrate containing 250g/l (25.5% w/w) trinexapac-ethyl per litre.

Warning

May cause an allergic skin reaction.

May cause damage to organs (Gastrointestinal tract) through prolonged or repeated exposure.

Very toxic to aquatic life with long lasting effects.

Repeated exposure may cause skin dryness or cracking.

Do not breathe the mist or vapours.

Wear protective gloves.

Get medical advice/ attention if you feel unwell.

If skin irritation or rash occurs: Get medical advice/ attention.

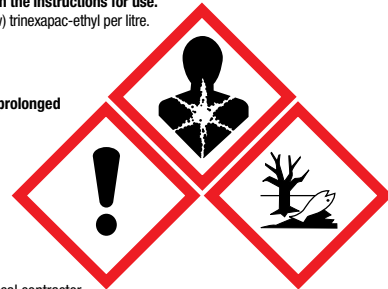
Take off contaminated clothing and wash it before reuse.

Collect spillage.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.

PCS No. 03849

UFI: RVYK-238G-D00G-S06W



CONDITIONS OF USE

FOR USE ONLY AS AN AGRICULTURAL PLANT GROWTH REGULATOR

Crop	Max individual dose l/ha	Max no. of applications	Max. total dose l/ha per crop/year	Latest time of application
Winter wheat	0.4	-	0.4	Before flag leaf sheath extending stage (GS 41)
Winter barley	0.6	-	0.6	
Winter and spring oats	0.4	-	0.4	Before second node detectable stage (GS 32)
Grassland (seed crop)	0.8	-	0.8	
Spring wheat	0.4	-	0.4	Before third node detectable stage (GS 33)
Spring barley	0.5	-	0.5	
Durum wheat, rye, triticale	0.4	-	0.4	

Additional Safety Information.

(a) Operator Protection

AVOID CONTACT WITH SKIN AND EYES.

WEAR EYE/FACE PROTECTION when handling the concentrate.

FOR USE BY TRACTOR MOUNTED/TRAILLED SPRAYER ONLY.

(b) Environmental Protection

Do not contaminate water with the product or its container.

Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.

(c) Storage and disposal.

RINSE CONTAINER THOROUGHLY, by using an integrated pressure rinsing device or manually rinsing three times. Add washings to

the sprayer at the time of filling and dispose of safely.

Do not re-use container for any other purpose and dispose of safely.

(d) Restrictions

Apply MODDUS only to healthy, actively growing crops.

Do not apply during periods of frosty weather or when frost is imminent.

Do not apply MODDUS to crops that are stressed by severe weather conditions, drought, frost, disease, insect damage, nutritional deficiency, etc.

Do not apply if rain is expected or if the crop is wet.

Avoid spray drift on to neighbouring crops.

Lxxxxxx IREL/10B PPE xxxxxxx 11/2016

## DIRECTIONS FOR USE

### PROPERTIES OF MODDUS

MODDUS® is a growth regulator for crop height reduction, lodging prevention and yield protection in all varieties of winter and spring wheat, winter and spring barley and winter and spring oats, durum wheat, rye, triticale and grassland (seed crops).

Treatment may lead to ears remaining erect through to harvest.

### MIXING AND SPRAYING

Make sure the sprayer is set to give an even application at the correct volume.

Fill the spray tank with half the required volume of clean water and start agitation. Add the required amount of MODDUS, agitate, and continue agitation whilst adding the rest of the water.

Agitate the mixture thoroughly before use and continue agitation during spraying.

Thoroughly wash all spray and measuring equipment with water and a wetting agent immediately after use.

### APPLICATION

#### Spray volume

Apply MODDUS in a minimum of 200 l/ha of water. Increased penetration will be obtained with an increase in water volume but the necessity for this will be dependent on crop growth stage and habit.

#### Spray nozzles

A medium spray quality is preferred for application of MODDUS. A spray pressure of 2-3 bar is recommended.

#### Spraying

Take particular care to avoid overlapping of spray swaths.

Apply only using a ground sprayer.

## RECOMMENDATIONS

### Winter Wheat

#### Timing and dose

Apply at 0.4 l/ha from the leaf sheath erect stage (GS 30) but before the flag leaf extending stage (GS 41).

### Winter Barley

#### Timing and dose

Apply at 0.4 l/ha from the leaf sheath erect stage (GS 30) but before the third node detectable stage (GS 33).

or

Apply at 0.6 l/ha from the flag leaf just visible stage (GS 37) but before the flag leaf extending stage (GS 41).

### Spring Barley

#### Timing and dose

Apply at 0.5 l/ha from the leaf sheath erect stage (GS 30) but before the third node detectable stage (GS 33).

### Spring Wheat

#### Timing and dose

Apply at 0.4 l/ha from the leaf sheath erect stage (GS 30) but before the third node detectable stage (GS 33).

### Winter and Spring Oats

#### Timing and dose

Apply at 0.4 l/ha from the leaf sheath erect stage (GS 30) but before the second node detectable stage (GS 32).

### Rye, Triticale and Durum Wheat

#### Timing and dose

Apply at 0.4 l/ha from the leaf sheath erect stage (GS 30) but before the third node detectable stage (GS 33).

### Grassland (seed crops only)

#### Timing and dose

Apply at 0.8 l/ha from the leaf sheath erect stage (GS 30) but before the second node detectable stage (GS 32).

## CROP FAILURE

In the event of crop failure for any reason, cereals and oilseed rape can be planted in soil treated with MODDUS. Due to reduced activity via the root system and to its rapid degradation in soil, no problems with following crops are foreseen for this product.

## SAFETY DATA SHEET v16.0

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

Trade name: MODDUS

Design code: A7725M

Product Registration number: PCS 03849

Unique Formula Identifier(UFI): RYK-238G-D00G-S06W

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture: Plant growth regulator

Recommended restrictions on use: professional use

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

Company: Syngenta Ireland Limited, Block 6 Cleaboy Business Park, Old Kilmeaden Road, Waterford, Ireland

Telephone: (051) 377203

Telefax: (051) 354748

E-mail address of person responsible for the SDS: cropsales.ie@syngenta.com

#### 1.4 Emergency telephone number

Emergency telephone number: Syngenta +44 1484 538444

Poisons Information Centre of Ireland

Members of Public: +353 (1) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)

Healthcare Professionals: +353 (1) 809 2566 (24-hour service)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Skin sensitisation, Category 1 - H317: May cause an allergic skin reaction.

Specific target organ toxicity - repeated exposure, Category 2, Gastrointestinal tract - H373: May cause damage to organs through prolonged or repeated exposure.

Long-term (chronic) aquatic hazard, Category 1 - H410: Very toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

#### Hazard pictograms



#### Signal Word

Warning

#### Hazard

H317

May cause an allergic skin reaction.

#### Statements

H410

Very toxic to aquatic life with long lasting effects.

H373

May cause damage to organs (Gastrointestinal tract) through prolonged or repeated exposure.

#### Supplemental

EUH066

Repeated exposure may cause skin dryness or cracking.

#### Hazard Statements

#### Precautionary

P260

Do not breathe the mist or vapours.

#### Statements

P280

Wear protective gloves.

P314

Get medical advice/ attention if you feel unwell.

P333+P313

If skin irritation or rash occurs: Get medical advice/ attention.

P362+P364

Take off contaminated clothing and wash it before reuse.

P391

Collect spillage.

P501

Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as nonhazardous waste.

#### Hazardous components which must be listed on the label:

trinexapac-ethyl (ISO)

#### Additional Labelling

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

#### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.2 Mixtures

##### Components

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
trinexapac-ethyl (ISO)	95266-40-3 607-752-00-4	Skin Sens. 1B; H317 STOT RE 2; H373 (Gastrointestinal tract) Aquatic Chronic 1; H410 M-Factor (Chronic aquatic toxicity): 1	>= 25 - < 30
poly(oxy1,2ethanediyl), alpha isotridecyl-o-mega hydroxy	9043-30-5 500-027-2	Acute Tox.4; H302, Eye Dam. 1; H318 Aquatic Chronic 3; H412 Acute toxicity estimate Acute oral toxicity: 1,940 mg/kg	>= 20 - < 25

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
toluene	108-88-3 203-625-9 601-021-00-3 01-2119471310-51-xxxx	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 (Central nervous system) STOT RE 2; H373 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 0.1 - < 0.25

For explanation of abbreviations see section 16.

#### 4. FIRST-AID MEASURES

##### Description of first aid measures

**General advice :** Have the product container, label or Safety Data Sheet with you when calling the Syngenta emergency number, a poison control center or physician, or going for treatment.

**If inhaled :** Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration.

Keep patient warm and at rest. Call a physician or poison control centre immediately.

**In case of skin contact :** Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

**In case of eye contact :** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

**If swallowed :** If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

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

Symptoms: Aspiration may cause pulmonary oedema and pneumonitis.

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

Treatment : There is no specific antidote available. Treat symptomatically. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

#### 5. FIRE-FIGHTING MEASURES

##### 5.1 Extinguishing media

**Suitable extinguishing media:**

Extinguishing media - small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media - large fires: Alcohol-resistant foam or Water spray.

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

##### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).

Exposure to decomposition products may be a hazard to health. Flash back possible over considerable distance.

#### 5.3 Advice for firefighters

Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus. Further information : Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

#### 6. ACCIDENTAL RELEASE MEASURES

##### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8. Keep people away from and upwind of spill/leak. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Remove all sources of ignition. Pay attention to flashback.

##### 6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

##### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

##### 6.4 Reference to other sections

Refer to disposal considerations listed in section 13., Refer to protective measures listed in sections 7 and 8.

#### 7. HANDLING AND STORAGE

##### 7.1 Precautions for safe handling

Advice on safe handling : No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

##### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. No smoking.

Further information on storage stability: Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

##### 7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

##### 8.1 Control parameters

##### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
trinexapac-ethyl (ISO)	95266-40-3	TWA	5 mg/m <sup>3</sup>	Syngenta
toluene	108-88-3	TWA	50 ppm 192 mg/m <sup>3</sup>	2006/15/EC

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Further information: Indicative, Identifies the possibility of significant uptake through the skin				
		STEL	100 ppm 384 mg/m <sup>3</sup>	2006/15/EC
Further information: Indicative, Identifies the possibility of significant uptake through the skin				
		OELV - 8 hrs (TWA)	50 ppm 192 mg/m <sup>3</sup>	IE OEL
Further information: Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body				
		OELV - 15 min (STEL)	100 ppm 384 mg/m <sup>3</sup>	IE OEL
Further information: Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body				

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
fatty acids, C8-10, Me esters	Workers	Dermal	Long-term systemic effects	103.6 mg/kg
	Workers	Inhalation	Long-term systemic effects	73.6 mg/m <sup>3</sup>
	Consumers	Oral	Long-term systemic effects	3.7 mg/kg
	Consumers	Dermal	Long-term systemic effects	51.8 mg/kg
	Consumers	Inhalation	Long-term systemic effects	12.86 mg/m <sup>3</sup>
castor oil, ethoxylated	Workers	Inhalation	Long-term systemic effects	16.4 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	4.67 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2.9 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	1.67 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	1.67 mg/kg bw/day
toluene	Workers	Inhalation	Long-term systemic effects	192 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	384 mg/kg
	Workers	Inhalation	Acute local effects	384 mg/m <sup>3</sup>
	Workers	Inhalation	Acute systemic effects	384 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	192 mg/m <sup>3</sup>
	Consumers	Oral	Long-term systemic effects	8.13 mg/kg
	Consumers	Dermal	Long-term systemic effects	226 mg/kg
	Consumers	Inhalation	Acute systemic effects	226 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute local effects	226 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	56.5 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term systemic effects	56.5 mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
fatty acids, C8-10, Me esters	Fresh water	0.0011 mg/l
	Fresh water sediment	0.0265 mg/kg
	Marine water	0.00011 mg/l
	Marine sediment	0.00265 mg/kg
	Sewage treatment plant	3.92 mg/l
	Soil	0.00871 mg/kg

Substance name	Environmental Compartment	Value
castor oil, ethoxylated	Fresh water sediment	0.0129 mg/kg dry weight (d.w.)
	Marine sediment	0.00129 mg/kg dry weight (d.w.)
	Soil	0.00258 mg/kg dry weight (d.w.)
toluene	Fresh water	0.68 mg/l
	Marine sediment	16.39 mg/kg
	Sewage treatment plant	13.61 mg/l
	Freshwater - intermittent	0.68 mg/l
	Marine water	0.68 mg/l
	Fresh water sediment	16.39 mg/kg
Soil	2.89 mg/kg	

#### 8.2 Exposure controls

##### Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. Maintain air concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice.

##### Personal protective equipment

**Eye protection :** No special protective equipment required.

##### Hand protection

**Material :** Nitrile rubber

**Break through time :** > 480 min

**Glove thickness :** 0.5 mm

**Remarks :** Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

**Skin and body protection:** Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Remove and wash contaminated clothing before re-use. Wear as appropriate: Impervious clothing

**Respiratory protection :** No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Protective measures :** The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

##### Environmental exposure controls

**Water:** Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : brown orange

Odour : unpleasant

Odour Threshold : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Flammability : No data available

Upper explosion limit / Upper flammability limit: No data available

Lower explosion limit / Lower flammability limit: No data available

Flash point : 80 °C, Method: Pinsky-Martens closed cup

Auto-ignition temperature : 250 °C

Decomposition temperature : No data available

pH : 2 - 6, Concentration: 1 % w/v

Viscosity, dynamic : 10.01 mPa.s (20 °C), 5.45 mPa.s (40 °C)

Viscosity, kinematic : No data available

Solubility in other solvents : No data available

Partition coefficient: noctanol/water: No data available

Density : 0.96 - 1.00 g/cm<sup>3</sup> (20 °C)

### 9.2 Other information

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Evaporation rate : No data available

Miscibility with water : Miscible

Surface tension : 28.2 - 28.5 mN/m, 20 °C

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

None reasonably foreseeable.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions: No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid: No decomposition if used as directed.

### 10.5 Incompatible materials

Materials to avoid: None known.

### 10.6 Hazardous decomposition products

Hazardous decomposition products: No hazardous decomposition products are known.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Information on likely routes of exposure: Ingestion, Inhalation, Skin contact, Eye contact

#### Acute toxicity

##### Product:

Acute oral toxicity:

LD50 (Mouse, male and female): > 5,000 mg/kg

Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity:

LC50 (Rat): > 2.51 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhalation toxicity

LD50 (Rat, male and female): > 4,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

#### Components:

##### trinexapac-ethyl (ISO):

Acute oral toxicity:

LD50 (Rat, male and female): 4,460 mg/kg

Acute inhalation toxicity:

LC50 (Rat, male and female): > 5.69 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhalation toxicity

LD50 (Rat, male and female): > 4,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

##### poly(oxy-1,2-ethanediyl),

##### alpha-isotridecyl-omega-hydroxy-:

Acute oral toxicity:

LD50 (Rat): 1,940 mg/kg

#### Skin corrosion/irritation

##### Product:

Species: Rabbit

Result: No skin irritation

#### Components:

##### trinexapac-ethyl (ISO):

Species: Rabbit

Result: Repeated exposure may cause skin dryness or cracking.

#### Serious eye damage/eye irritation

##### Product:

Species: Rabbit

Result: No eye irritation

#### Components:

##### trinexapac-ethyl (ISO):

Species: Rabbit

Result: No eye irritation

##### poly(oxy-1,2-ethanediyl), alpha-isotridecyl-omega-hydroxy-:

Species: Rabbit

Result: Irreversible effects on the eye

## Respiratory or skin sensitisation

### Product:

Species: Guinea pig

Result: The product is a skin sensitiser, sub-category 1B.

### Components:

#### **trinexapac-ethyl (ISO):**

Test Type: Local lymph node assay (LLNA)

Species: Mouse

Result: Did not cause sensitisation on laboratory animals.

#### **Germ cell mutagenicity**

### Components:

#### **trinexapac-ethyl (ISO):**

Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

#### **poly(oxy-1,2-ethanediyl), alpha-isotridecyl-omega-hydroxy-:**

Germ cell mutagenicity- Assessment: In vitro tests did not show mutagenic effects

#### **Carcinogenicity**

### Components:

#### **trinexapac-ethyl (ISO):**

Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.

#### **Reproductive toxicity**

### Components:

#### **trinexapac-ethyl (ISO):**

Reproductive toxicity - Assessment: No toxicity to reproduction

#### **toluene:**

Reproductive toxicity - Assessment: Some evidence of adverse effects on development, based on animal experiments.

#### **STOT - single exposure**

### Components:

#### **toluene:**

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

#### **STOT - repeated exposure**

### Components:

#### **trinexapac-ethyl (ISO):**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### **toluene:**

Target Organs: Central nervous system

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

#### **Aspiration toxicity**

### Components:

#### **toluene:**

May be fatal if swallowed and enters airways.

## 11.2 Information on other hazards

### **Endocrine disrupting properties**

### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

### Product:

Toxicity to fish :

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 24 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (*Daphnia magna* Straus): 2.9 mg/l  
Exposure time: 48 h  
ErC50 (*Anabaena flos-aquae* (bluegreen algae)): 8.3 mg/l  
Exposure time: 96 h  
ErC50 (*Lemna gibba* (duckweed)): 55 mg/l  
Exposure time: 7 d

Toxicity to algae :

NOEC (*Anabaena flos-aquae* (cyanobacterium)): 8.0 mg/l  
End point: Growth rate  
Exposure time: 96 h  
NOEC (*Lemna gibba* (gibbous duckweed)): 8.0 mg/l  
End point: Frond growth  
Exposure time: 7 d

### Components:

#### **trinexapac-ethyl (ISO):**

Toxicity to fish :

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 68 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

LC50 (*Americamysis*): 6.5 mg/l  
Exposure time: 96 h  
ErC50 (*Raphidocelis subcapitata* (green algae)): 24.5 mg/l  
Exposure time: 96 h  
NOEC (*Raphidocelis subcapitata* (freshwater green alga)): 8.0 mg/l  
End point: Growth rate  
Exposure time: 96 h

Toxicity to algae:

ErC50 (*Myriophyllum spicatum* (Eurasian watermilfoil)): 1.2 mg/l  
Exposure time: 14 d  
EC10 (*Myriophyllum spicatum* (Eurasian watermilfoil)): 0.011 mg/l  
Exposure time: 14 d  
EC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h

Toxicity to microorganisms:

NOEC: 0.41 mg/l

Toxicity to fish (Chronic toxicity):

Exposure time: 35 d  
Species: *Pimephales promelas* (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

NOEC: 2.4 mg/l  
Exposure time: 21 d  
Species: *Daphnia magna* (Water flea)

M-Factor (Chronic aquatic toxicity): 1

**poly(oxy-1,2-ethanediyl), alpha-isotridecyl-omega-hydroxy-:**

Toxicity to fish: LC50 (*Danio rerio* (zebra fish)): > 1 - 10 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): 5 - 10 mg/l  
Exposure time: 48 h

**Ecotoxicology Assessment**

Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.

**toluene:**

Toxicity to fish: LC50 (*Oncorhynchus kisutch* (coho salmon)): 5.5 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Ceriodaphnia dubia* (water flea)): 3.78 mg/l  
Exposure time: 48 h

Toxicity to fish (Chronic toxicity): NOEC: 1.39 mg/l  
Exposure time: 40 d  
Species: *Oncorhynchus kisutch* (coho salmon)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 0.74 mg/l  
Exposure time: 7 d  
Species: *Ceriodaphnia dubia* (Water flea)

**12.2 Persistence and degradability**

**Components:**

**trinexapac-ethyl (ISO):**

Biodegradability : Result: Not readily biodegradable.  
Stability in water : Degradation half life: 3.9 - 5.5 d  
Remarks: Product is not persistent.

**poly(oxy-1,2-ethanediyl), alpha-isotrizecyl-omega-hydroxy-:**

Biodegradability: Result: Readily biodegradable.

**toluene:**

Biodegradability: Result: Readily biodegradable.

**12.3 Bioaccumulative potential**

**Components:**

**trinexapac-ethyl (ISO):**

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: noctanol/water: log Pow: -2.1 (25 °C), log Pow: -0.29 (25 °C), log Pow: 1.5 (25 °C)

**toluene:**

Bioaccumulation: Remarks: Does not bioaccumulate

**12.4 Mobility in soil**

**Components:**

**trinexapac-ethyl (ISO):**

Distribution among environmental compartments: Remarks: Moderately mobile in soils

Stability in soil : Dissipation time: < 0.2 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

**12.5 Results of PBT and vPvB assessment**

**Product:**

Assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Components:**

**trinexapac-ethyl (ISO):**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**toluene:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**12.6 Endocrine disrupting properties**

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7 Other adverse effects**

No data available

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Product :** Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

**Contaminated packaging :** Empty remaining contents. Triple rinse containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

**Waste Code :** uncleaned packagings

150110, packaging containing residues of or contaminated by dangerous substances



## 14. TRANSPORT INFORMATION

### 14.1 UN number

**ADR:** UN 3082

**RID:** UN 3082

**IMDG:** UN 3082

**IATA:** UN 3082

### 14.2 UN proper shipping name

**ADR:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRINEXAPAC-ETHYL)

**RID:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRINEXAPAC-ETHYL)

**IMDG:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRINEXAPAC-ETHYL)

**IATA:** Environmentally hazardous substance, liquid, n.o.s. (TRINEXAPAC-ETHYL)

### 14.3 Transport hazard class(es)

**ADR:** 9

**RID:** 9

**IMDG:** 9

**IATA:** 9

### 14.4 Packing group

#### ADR

Packing group: III

Classification Code: M6

Hazard Identification Number: 90

Labels: 9

Tunnel restriction code: (-)

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

#### RID

Packing group: III

Classification Code: M6

Hazard Identification Number: 90

Labels: 9

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

#### IMDG

Packing group: III

Labels: 9

EmS Code: F-A, S-F

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

#### IATA (Cargo)

Packing instruction (cargo aircraft): 964

Packing instruction (LQ): Y964

Packing group: III

Labels: Miscellaneous

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

#### IATA (Passenger)

Packing instruction (passenger aircraft): 964

Packing instruction (LQ): Y964

Packing group: III

Labels: Miscellaneous

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

### 14.5 Environmental hazards

#### ADR

Environmentally hazardous: yes

#### RID

Environmentally hazardous: yes

#### IMDG

Marine pollutant: yes

#### IATA (Passenger)

Environmentally hazardous: yes

#### IATA (Cargo)

Environmentally hazardous: yes

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

## 15. REGULATORY INFORMATION

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII): Conditions of restriction for the following entries should be considered: Number on list 3

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast): Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable

REACH - List of substances subject to authorisation (Annex XIV): Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. E1 ENVIRONMENTAL HAZARDS

## Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

## 16. OTHER INFORMATION

### Full text of H-Statements

H225: Highly flammable liquid and vapour.

H302: Harmful if swallowed.

H304: May be fatal if swallowed and enters airways.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H336: May cause drowsiness or dizziness.

H361d: Suspected of damaging the unborn child.

H373: May cause damage to organs through prolonged or repeated exposure.

H410: Very toxic to aquatic life with long lasting effects.

H412: Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox.: Acute toxicity

Aquatic Chronic: Chronic aquatic toxicity

Asp. Tox.: Aspiration hazard

Eye Dam.: Serious eye damage

Flam. Liq.: Flammable liquids

Repr.: Reproductive toxicity

Skin Irrit.: Skin irritation

Skin Sens.: Skin sensitisation

STOT RE: Specific target organ toxicity - repeated exposure

STOT SE: Specific target organ toxicity - single exposure

2006/15/EC: Europe. Indicative occupational exposure limit values

IE OEL: Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 4

Syngenta: Syngenta Occupational Exposure Limit

2006/15/EC / TWA: Limit Value - eight hours

2006/15/EC / STEL: Short term exposure limit

IE OEL / OELV - 8 hrs (TWA): Occupational exposure limit value (8-hour reference period)

IE OEL / OELV - 15 min (STEL): Occupational exposure limit value (15-minute reference period)

Syngenta / TWA: Time weighted average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways;

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS -

Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ERcX - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Skin Sens. 1B H317

STOT RE 2 H373

Aquatic Chronic 1 H410

#### Classification procedure:

Based on product data or assessment

Calculation method

Calculation method

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.