

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : PALISADE

Design code : A7725M

Product Registration Number : MAPP 17860

Unique Formula Identifier (UFI) : WNU7-R0J4-300A-C2MQ

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

Use of the Sub-stance/Mixture : Plant growth regulator

Recommended restrictions on use : professional use

1.3 Details of the supplier of the safety data sheet

Company : Syngenta UK Limited
Jealott's Hill International Research Centre
Bracknell, Berkshire RG42 6EY
United Kingdom

Telephone : +44 (0) 1223 883400

Telefax : -

E-mail address of person responsible for the SDS : MSDSenquiries.UK@syngenta.com

1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Skin sensitisation, Sub-category 1B H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, Cat- H410: Very toxic to aquatic life with long lasting

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

Category 1

effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	H317 May cause an allergic skin reaction. H410 Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	:	EUH066 Repeated exposure may cause skin dryness or cracking.
Precautionary statements	:	Prevention: P261 Avoid breathing mist or vapours. P280 Wear protective gloves. Response: 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. Disposal: P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous 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.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version 17.3 Revision Date: 17.09.2025 SDS Number: S00039032593 Date of last issue: 11.10.2024
Date of first issue: 15.06.2017

SECTION 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 Aquatic Chronic 1; H410 M-Factor (Chronic aquatic toxicity): 1	>= 25 - < 30
2-[2-(2-{2-[2-(11-methyl-dodecyloxy)-ethoxy]-ethoxy}-ethoxy)-ethoxy]-ethanol	78330-21-9	Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 20 - < 25
toluene	108-88-3 203-625-9 601-021-00-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 (Central nervous system) STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 0.1 - < 0.25

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Have the product container, label or Safety Data Sheet with you when calling the 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.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

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.
- Risks : May cause an allergic skin reaction.
Repeated exposure may cause skin dryness or cracking.

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.

SECTION 5: Firefighting 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
- 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 fire-fighting : 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.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

Flash back possible over considerable distance.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)

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.

SECTION 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

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

When using do not eat, drink or smoke.
Use only in an area containing flame proof equipment.
Take precautionary measures against static discharges.
For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from combustible material. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feed-stuffs. No smoking.

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.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
toluene	Workers	Inhalation	Long-term systemic effects	192 mg/m ³
	Workers	Dermal	Long-term systemic effects	384 mg/kg
	Workers	Inhalation	Acute local effects	384 mg/m ³
	Workers	Inhalation	Acute systemic effects	384 mg/m ³
	Workers	Inhalation	Long-term local effects	192 mg/m ³
	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 ³
	Consumers	Inhalation	Acute local effects	226 mg/m ³
	Consumers	Inhalation	Long-term local effects	56.5 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	56.5 mg/m ³
castor oil, ethoxylated	Workers	Inhalation	Long-term systemic effects	16.4 mg/m ³
	Workers	Dermal	Long-term systemic	4.67 mg/kg

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version 17.3 Revision Date: 17.09.2025 SDS Number: S00039032593 Date of last issue: 11.10.2024
Date of first issue: 15.06.2017

			effects	bw/day
	Consumers	Inhalation	Long-term systemic effects	2.9 mg/m ³
	Consumers	Dermal	Long-term systemic effects	1.67 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	1.67 mg/kg bw/day
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 ³
	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 ³

Predicted No Effect Concentration (PNEC)

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
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

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.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

- Eye/face 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.
- 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.

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available

Flash point : 80 °C
Method: Pensky-Martens closed cup

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Density : 0.96 - 1.00 g/cm³ (20 °C)

Solubility(ies)
Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : 250 °C

Decomposition temperature : No data available

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

Viscosity, kinematic : No data available

Explosive properties : Not explosive

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

9.2 Other information

Surface tension : 28.2 - 28.5 mN/m, 7.500 g/l, 20 °C

Particle size : No data available

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

SECTION 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

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

Acute toxicity

Based on available data, the classification criteria are not met.

Product:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.51 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 4,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

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
- Acute dermal toxicity : LD50 (Rat, male and female): > 4,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

2-[2-(2-{2-[2-(11-methyl-dodecyloxy)-ethoxy]-ethoxy)-ethoxy]-ethoxy]-ethanol:

- Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
- Acute dermal toxicity : LD50 (Rat, female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

toluene:

- Acute oral toxicity : LD50 (Rat, male): 5,580 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male): 25.7 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rabbit, male): > 5,000 mg/kg

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

- Species : Rabbit
Result : No skin irritation
- Species : Rabbit
Result : Repeated exposure may cause skin dryness or cracking.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

Components:

trinexapac-ethyl (ISO):

Species : Rabbit
Result : No skin irritation

toluene:

Species : Rabbit
Result : Irritating to skin.

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Species : Rabbit
Result : No eye irritation

Components:

trinexapac-ethyl (ISO):

Species : Rabbit
Result : No eye irritation

2-[2-(2-{2-[2-(11-methyl-dodecyloxy)-ethoxy]-ethoxy)-ethoxy]-ethoxy]-ethanol:

Species : Rabbit
Result : Risk of serious damage to eyes.

toluene:

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Product:

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

Components:

trinexapac-ethyl (ISO):

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Result : Does not cause skin sensitisation.

toluene:

Species : Guinea pig
Result : Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

trinexapac-ethyl (ISO):

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

toluene:

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

Carcinogenicity

Not classified due to lack of data.

Components:

trinexapac-ethyl (ISO):

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

toluene:

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

Reproductive toxicity

Not classified due to lack of data.

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

Not classified due to lack of data.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

Components:

trinexapac-ethyl (ISO):

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

toluene:

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

STOT - repeated exposure

Not classified due to lack of data.

Components:

trinexapac-ethyl (ISO):

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

toluene:

Exposure routes : Inhalation
Target Organs : Central nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Aspiration toxicity

Not classified due to lack of data.

Components:

toluene:

May be fatal if swallowed and enters airways.

SECTION 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 : EC50 (Daphnia magna Straus): 2.9 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : ErC50 (Anabaena flos-aquae (cyanobacterium)): 8.3 mg/l
plants Exposure time: 96 h

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

ErC50 (Lemna gibba (gibbous duckweed)): 55 mg/l
Exposure time: 7 d

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 : LC50 (Americamysis): 6.5 mg/l
aquatic invertebrates Exposure time: 96 h

Toxicity to algae/aquatic : ErC50 (Raphidocelis subcapitata (freshwater green alga)):
plants 24.5 mg/l
Exposure time: 96 h

EC10 (Raphidocelis subcapitata (freshwater green alga)):
13.39 mg/l
End point: Growth rate
Exposure time: 72 h

ErC50 (Myriophyllum spicatum (Eurasian watermilfoil)): 1.2
mg/l
Exposure time: 14 d

EC10 (Myriophyllum spicatum (Eurasian watermilfoil)): 0.011
mg/l
End point: Growth rate
Exposure time: 14 d

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic tox- : EC10: 1.37 mg/l
icity) Exposure time: 35 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other : NOEC: 2.4 mg/l
aquatic invertebrates (Chron- Exposure time: 21 d
ic toxicity)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1

2-[2-(2-[2-(11-methyl-dodecyloxy)-ethoxy]-ethoxy)-ethoxy]-ethoxy]-ethanol:

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

2-[2-(2-[2-(11-methyl-dodecyloxy)-ethoxy]-ethoxy)-ethoxy]-ethoxy]-ethanol:

Biodegradability : Result: Biodegradable

toluene:

Biodegradability : Result: Readily biodegradable.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

12.3 Bioaccumulative potential

Components:

trinexapac-ethyl (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

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 : Substance is not persistent, bioaccumulative, and toxic (PBT).
Substance is not very persistent and very bioaccumulative (vPvB).
Remarks: Weight of Evidence

2-[2-(2-{2-[2-(11-methyl-dodecyloxy)-ethoxy]-ethoxy)-ethoxy]-ethoxy]-ethanol:

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).
Substance is not very persistent and very bioaccumulative (vPvB).

toluene:

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).
Substance is not very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

Endocrine disrupting potential : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

Components:

trinexapac-ethyl (ISO):

Endocrine disrupting potential : Substance does not have endocrine disrupting properties.
Weight of Evidence

SECTION 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.

SECTION 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.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

(TRINEXAPAC-ETHYL)

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

14.3 Transport hazard class(es)

	Class	Subsidiary risks
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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

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 and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17) : Conditions of restriction for the following entries should be considered:
Number on list 3
Number on list 48: toluene

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation : Not applicable

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain) : Not applicable

Regulation (EU) No 2024/590 on substances that deplete the ozone layer : Not applicable

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

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation : Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH) E1 ENVIRONMENTAL HAZARDS

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial and livestock rearing emissions (integrated pollution prevention and control)
Not applicable

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

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

SECTION 16: Other information

Full text of H-Statements

H225 : Highly flammable liquid and vapour.

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

Aquatic Chronic : Long-term (chronic) aquatic hazard

Asp. Tox. : Aspiration hazard

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

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

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; 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; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Skin Sens. 1B	H317
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
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 guid-

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



PALISADE

Version	Revision Date:	SDS Number:	Date of last issue: 11.10.2024
17.3	17.09.2025	S00039032593	Date of first issue: 15.06.2017

ance 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.

GB / 6N