



Force[®] ST

syngenta[®]

GROUP 3 INSECTICIDE



Product registration number: MAPP 19042

A micro-capsule suspension containing 200 g/l tefluthrin (18% w/w).

Seed treatment for the control of soil pests in sugar beet and fodder beet.

SAFETY PRECAUTIONS

(a) Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES, EYE PROTECTION (GOGGLES) AND SUITABLE RESPIRATORY PROTECTIVE EQUIPMENT† when handling the concentrate, handling contaminated surfaces, bagging or cleaning contaminated equipment.

† disposable filtering facepiece respirator to EN 149, FFP3(S) or equivalent.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling treated seed or contaminated seed sowing equipment.

In order to meet Health and Safety at Work Act responsibilities to users of treated seed, the following phrase must be included on seed sack labels.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling treated seed or contaminated seed sowing equipment.

TAKE OFF IMMEDIATELY all contaminated clothing.

WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.

WASH CONCENTRATE from skin or eyes immediately.

WASH HANDS AND EXPOSED SKIN before meals and after work. IF SWALLOWED, do not induce vomiting; seek medical advice immediately and show this container or label.

However engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

(b) Environmental protection

Seed coating shall only be performed in professional seed treatment facilities. Those facilities must apply the best available techniques in order to ensure that the release of dust during application to the seed, storage and transport can be minimised. DO NOT CONTAMINATE SURFACE WATERS OR DITCHES WITH CHEMICAL OR USED CONTAINER.

TREATED SEED IS HARMFUL TO GAME AND WILDLIFE.

Bury or remove spillages.

DO NOT APPLY TREATED SEED FROM THE AIR.

KEEP LIVESTOCK out of areas drilled with treated seed for at least 80 days after sowing.

(c) Storage and disposal

KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place. EMPTY CONTAINER COMPLETELY and dispose of safely.

DO NOT USE TREATED SEED as food or feed.

DO NOT RE-USE SACKS OR CONTAINERS THAT HAVE BEEN USED FOR TREATED SEED for food or feed.

In case of toxic or transport emergency ring

+44 (0)1484 538444 any time

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

Syngenta UK Limited
CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE
Tel: Cambridge (01223) 883400

**PROTECT FROM FROST
MIX THOROUGHLY BEFORE USE**

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The
Voluntary
Initiative

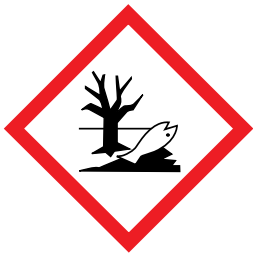
This product label is compliant with the CPA Voluntary Initiative (VI) guidance.

20 litres

Product names marked ® or ™, the ALLIANCE FRAME, the SYNGENTA Logo and the PURPOSE ICON are Trademarks of a Syngenta Group Company

L1086191 GBRI/02A PPE 4155252 1289/2019

FORCE® ST



A capsule suspension for seed treatment containing 200 g/l tefluthrin.

Signal Word Warning

Hazard May cause an allergic skin reaction.

Statements Harmful if inhaled.

Very toxic to aquatic life with long lasting effects.

Precautions Keep out of reach of children.

Statements Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTRE or doctor/physician if you feel unwell.

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

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.

Supplemental Information **To avoid risks to human health and the environment comply with the instructions for use.**

Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.

MAPP 19042

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL SEED TREATMENT

For use on: Seed of sugar beet and fodder beet.

Maximum individual dose: 50ml product/unit of seed (1 unit = 100,000 seeds).

Maximum number of treatments: one per batch.

Latest permitted timing: before drilling.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

This leaflet is part of the approved Product Label.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be carefully read in order to obtain safe and successful use of this product.

RESTRICTIONS

SOIL FACTORS

Whenever sugar or fodder beet seed treated with FORCE® ST is used in areas where soil erosion by wind and/or water is known to be a problem, preventative measures (e.g. cover cropping) must be used to minimise the likelihood of such events occurring. Due to the probable low incidence of soil pests in very light texture soil and sand, the use of seed treated with FORCE ST on these soil types may not be necessary.

Caution: The possible development of pest strains resistant to FORCE ST cannot be excluded or predicted.

If such resistant strains occur, FORCE ST is unlikely to give satisfactory control.

PESTS CONTROLLED

FORCE ST contains tefluthrin, a soil acting pyrethroid insecticide which reduces the damage caused by a range of pests which attack sugar and fodder beet seedlings. The pests involved include: springtails, symphylids, millipedes and pygmy beetle. FORCE ST is recommended to ensure sugar and fodder beet emergence is improved by reducing damage from any of these pests.

CROP SPECIFIC INFORMATION

TIMING

Before drilling.

RATE OF USE

Apply FORCE ST to achieve a loading of 10g tefluthrin (50 ml product) per unit of seed. (1 unit = 100,000 seeds).

MAXIMUM NUMBER OF TREATMENTS

One per batch.

APPLICATION

Seed coating shall only be performed in professional seed treatment facilities. Those facilities must apply the best available techniques in order to exclude the release of dust clouds during storage, transport and application. exclude the release of dust clouds during storage, transport and application.

FORCE ST is applied during the process of pelleting sugar beet and fodder beet seed. Pelleting requires specialist equipment, and Syngenta UK Limited. should be consulted for advice on application during the pelleting process.

Agitate container thoroughly before use e.g. by rolling containers on a level floor bearing in mind the following warning.

Container of greater than 20 litres capacity should be handled only with mechanical assistance.

STORAGE OF TREATED SEED

Treated seed not drilled in the intended season of use may be stored for drilling one season later. Store securely in a cool, dry place.

RESISTANCE MANAGEMENT

FORCE ST contains tefluthrin, a pyrethroid belonging to the Mode of Action IRAC group 3, subgroup A. Pesticides of different chemical types or alternative control measures should be included in the planned programme. Alternating insecticides with different modes of action is a recognised anti-resistance strategy and FORCE ST should always be used in conjunction with other insecticides of a different mode of action, wherever possible. This includes consideration of sequences involving seed or soil treatments followed by foliar sprays

SECTION 6 OF THE HEALTH AND SAFETY AT WORK ACT
ADDITIONAL PRODUCT SAFETY INFORMATION

(This section does not form part of the product label under the Control of Pesticides Regulations 1986).

The product label provides information on a specific pesticide use of the product: do not use otherwise, unless you have assessed any potential hazard involved, the safety measure required and that the particular use has "off-label" approval or is otherwise permitted under the Control of Pesticides Regulations.

The information contained in this label is based on the best available information including data from test results.

SAFETY DATA SHEET v11.0

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY UNDERTAKING

1.1 Product identifier

Product name: FORCE ST

Design code: A13219F

Product Registration number: MAPP 11752

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

Use of the Substance/Mixture: Insecticide

Recommended restrictions on use: professional use

1.3 Details of the supplier of the safety data sheet

Company: Syngenta UK Limited
CPC4, Capital Park
Fulbourn, Cambridge CB21 5XE
United Kingdom

Telephone: +44 (0) 1223 883400

Telefax: +44 (0) 1223 882195

E-mail address of person responsible for the SDS: customer.services@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)

Short-term (acute) aquatic hazard, Category 1


H400: Very toxic to aquatic life.

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) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms	
Signal Word	Warning

Hazard Statements	H317 H332 H410	May cause an allergic skin reaction. Harmful if inhaled. Very toxic to aquatic life with long lasting effects.
Precautionary Statements	P102 P280 P302 + P352 P304 + P340 + P312 P333 + P313 P391 P501	Keep out of reach of children Wear protective gloves/protective clothing/eye protection/face protection IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell. If skin irritation or rash occurs: Get medical advice/ attention. 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.

Additional Labelling

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

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

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. May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous Component(s)

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
tefluthrin (ISO)	79538-32-2 607-723-00-6	Acute Tox.2; H300 Acute Tox.2; H310 Acute Tox.1; H330 Aquatic Acute1; H400 Aquatic Chronic1; H410 M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 10,000	>= 10 - < 20
Hydrocarbons, C9, Aromatics	128601-23-0 265-199-0 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H335 (Respiratory system) STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411 EUH066	>= 10 - < 20

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
sodium hydroxide	1310-73-2 215-185-5 011-002-00-6 01-2119457892-27	Met. Corr. 1; H290 Skin Corr. 1A; H314 specific concentration limit Skin Corr. 1A; H314 >= 5 % Skin Corr. 1B; H314 >= 2 - < 5 % Skin Irrit. 2; H315 >= 0.5 - < 2 % Eye Irrit. 2; H319 >= 0.5 - < 2 %	>= 1 - < 2
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6 01-2120761540-60	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 specific concentration limit Skin Sens. 1; H317 >= 0,05 %	>= 0.0025 - < 0.025

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. 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.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: Aspiration may cause pulmonary oedema and pneumonitis. Skin contact paresthesia effects (itching, tingling, burning or numbness) are transient, lasting up to 24 hours.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Treat symptomatically.

SECTION 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 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.

5.3 Advice for fire-fighters

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.

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 materials 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: 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. 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.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
tefluthrin (ISO)	79538-32-2	TWA	0.04 mg/m ³ (Skin)	SYNGENTA
Hydrocarbons, C9, Aromatics	128601-23-0	TWA	19 ppm 100 mg/m ³	SUPPLIER
sodium hydroxide	1310-73-2	STEL	2 mg/m ³	GB EH40

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrocarbons, C9, Aromatics	Workers	Inhalation	Long-term systemic effects	150 mg/m ³
	Workers	Dermal	Long-term systemic effects	25 mg/kg
	Consumers	Inhalation	Long-term systemic effects	32 mg/m ³
	Consumers	Dermal	Long-term systemic effects	11 mg/kg
	Consumers	Oral	Long-term systemic effects	11 mg/kg
sodium hydroxide	Workers	Inhalation	Long-term local effects	1 mg/m ³
	Consumers	Inhalation	Long-term local effects	1 mg/m ³
1,2-benzisothiazol-3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m ³
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m ³
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.00403 mg/l
	Sewage treatment plant	.03 mg/l
	Fresh water sediment	0.0499 mg/kg
	Marine sediment	0.00499 mg/kg
	Freshwater - intermittent	0.0011 mg/l
	Marine water - intermittent	0.00110 mg/l
	Soil	3 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.

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, opaque
Colour:	White to beige
Odour:	Characteristic
Odour Threshold:	No data available.
pH:	11.0
Melting point/range:	Concentration: 100% w/v No data available
Boiling point/boiling range:	No data available
Flash point:	Method: Seta closed cup does not flash Method: Seta closed cup, Equilibrium method does not flash
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:	1.066 g/cm ³
Solubility(ies) Solubility in other solvents:	Miscible Solvent: Water
Partition Coefficient n-octanol/water:	No data available
Autoignition temperature:	>601 °C
Decomposition temperature:	No data available
Viscosity	
Viscosity, dynamic:	6,940 mPa.s (20 °C) 4,440 mPa.s (40 °C)
Viscosity, kinematic:	6,501 mm ² /s (20 °C) 4,165 mm ² /s (40 °C)
Explosive properties:	Not explosive
Oxidizing properties:	The substance or mixture is not classified as oxidizing.
9.2 Other Information	
Surface tension:	65.2 mN/m, 25 °C
Particle size :	No data available

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

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

Product:

Acute oral toxicity: LD50 (Rat, female): > 5,000 mg/kg
Acute inhalation toxicity: LC50 (Rat, male and female): > 2.54 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): > 5,000 mg/kg

Components:

tefluthrin (ISO):

Acute oral toxicity: LD50 (Rat, male): 21.8 mg/kg
Acute inhalation toxicity: LC50 (Rat, male and female): 0.0427 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Acute dermal toxicity: LD50 (Rat, female): 177 mg/kg

Hydrocarbons, C9, Aromatics:

Acute oral toxicity : LD50 (Rat, female): 3,492 mg/kg

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity : LD50 (Rat, male): 670 mg/kg
Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

Species: Rabbit
Result: No skin irritation
Remarks: May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

Components:

tefluthrin (ISO):

Species: Rabbit
Result: No skin irritation
Remarks: May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

Hydrocarbons, C9, Aromatics:

Result : Repeated exposure may cause skin dryness or cracking.
Species : Rabbit
Result : Mild skin irritation

sodium hydroxide:

Result : Corrosive

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit

Result : Mild skin irritation

Serious eye damage/eye irritation**Product:**

Species: Rabbit

Result: No eye irritation

Components:**tefluthrin (ISO):**

Species: Rabbit

Result: No eye irritation

sodium hydroxide:

Result : Corrosive

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit

Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation**Product:**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

Components:**tefluthrin (ISO):**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

1,2-benzisothiazol-3(2H)-one:

Result : Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity**Components:****tefluthrin (ISO):**

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

1,2-benzisothiazol-3(2H)-one:

Germ cell mutagenicity- Assessment: Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity**Components:****tefluthrin (ISO):**

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

solvent naphtha (petroleum), light arom.:

Carcinogenicity - Assessment: Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Reproductive toxicity**Components:****tefluthrin (ISO):**

Reproductive toxicity - Assessment:: No toxicity to reproduction

STOT - single exposure**Components:****Hydrocarbons, C9, Aromatics:**

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

Repeated dose toxicity

Components:

tefluthrin (ISO):

Remarks: No adverse effect has been observed in chronic toxicity tests.

Aspiration toxicity

Components:

Hydrocarbons, C9, Aromatics:

May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Components:

tefluthrin (ISO):

Toxicity to fish: LC50 (*Oncorhynchus mykiss* (rainbow trout)): 0.06 µg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Americamysis bahia* (Mysid shrimp)): 0.053 µg/l
Exposure time: 96 h

Toxicity to algae: ER50 (*Raphidocelis subcapitata* (freshwater green alga)): > 1.05 mg/l
Exposure time: 96 h
Remarks: Highest attainable concentration

M-Factor (Acute aquatic toxicity): 10,000

Toxicity to microorganisms: EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity): NOEC: 0.0096 µg/l
Exposure time: 28 d
Species: *Pimephales promelas* (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 0.00792 µg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)
NOEC: 0.0124 µg/l
Exposure time: 28 d
Species: *Americamysis*

M-Factor (Chronic aquatic toxicity): 10,000

Hydrocarbons, C9, Aromatics:

Toxicity to fish : LL50 (*Oncorhynchus mykiss* (rainbow trout)): 9.2 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EL50 (*Daphnia magna* (Water flea)): 3.2 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants: ER50 (*Raphidocelis subcapitata* (freshwater green alga)): 2.9 mg/l
Exposure time: 72 h
NOELR (*Raphidocelis subcapitata* (freshwater green alga)): 1.0 mg/l
End point: Growth rate
Exposure time: 72 h

Toxicity to fish (Chronic toxicity): NOELR: 1.228 mg/l
Exposure time: 28 d
Species: *Oncorhynchus mykiss* (rainbow trout)

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

NOELR: 2.144 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

Ecotoxicology Assessment

Chronic aquatic toxicity :

Toxic to aquatic life with long lasting effects.

1,2-benzisothiazol-3(2H)-one:

Toxicity to fish :

LC50 (Oncorhynchus mykiss (rainbow trout)): 2.18 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (Daphnia magna (Water flea)): 2.94 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants:

ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.15 mg/l
Exposure time: 72 h
EC10 (Raphidocelis subcapitata (freshwater green alga)): 0.04 mg/l
End point: Growth rate
Exposure time: 72 h

M-Factor (Acute aquatic toxicity):

1

Toxicity to fish (Chronic toxicity):

NOEC: 0.3 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)

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

NOEC: 1.7 mg/l
Exposure time: 21 d
Species: Daphnia (water flea)

12.2 Persistence and degradability

Components:

tefluthrin (ISO):

Stability in water: Degradation half life: 60 - 203 d

Remarks: The substance is stable in water.

Hydrocarbons, C9, Aromatics:

Biodegradability : Result: Readily biodegradable.

1,2-benzisothiazol-3(2H)-one:

Biodegradability : Result: rapidly degradable

12.3 Bioaccumulative potential

Components:

tefluthrin (ISO):

Bioaccumulation: Remarks: Tefluthrin bioaccumulates.

1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Components:

tefluthrin (ISO):

Distribution among environmental compartments: Remarks: immobile

Stability in soil: Dissipation time: 48 - 151 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:

tefluthrin (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).

1,2-benzisothiazol-3(2H)-one:

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 Other adverse effects

Product:

Endocrine disrupting potential: 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.

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.
(TEFLUTHRIN)

RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(TEFLUTHRIN)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(TEFLUTHRIN)

IATA: Environmentally hazardous substance, liquid, n.o.s.
(TEFLUTHRIN)

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: (-)

RID

Packing group: III
Classification Code: M6
Hazard Identification Number: 90
Labels: 9

IMDG

Packing group: III
Labels: 9
EmS Code: F-A, S-F

IATA (Cargo)

Packing instruction (cargo aircraft): 964
Packing instruction (LQ): Y964
Packing group: III
Labels: Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft): 964
Packing instruction (LQ): Y964
Packing group: III
Labels: Miscellaneous

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

Not applicable

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 regulation/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII): Not applicable

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

	Quantity 1	Quantity 2
E1 ENVIRONMENTAL HAZARDS	100t	200t

Other regulations:

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

- H226: Flammable liquid and vapour.
- H290: May be corrosive to metals.
- H300: Fatal if swallowed.
- H302: Harmful if swallowed.
- H304: May be fatal if swallowed and enters airways.
- H310: Fatal in contact with skin.
- H314: Causes severe skin burns and eye damage.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H318: Causes serious eye damage.
- H330: Fatal if inhaled.
- H335: May cause respiratory irritation.
- H336: May cause drowsiness or dizziness.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.
- H411: Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

- Acute Tox.: Acute toxicity
- Aquatic Acute: Acute aquatic toxicity
- Aquatic Chronic: Chronic aquatic toxicity
- Asp. Tox.: Aspiration hazard
- Eye Dam.: Serious eye damage
- Flam. Liq.: Flammable liquids
- Met. Corr.: Corrosive to metals
- Skin Corr.: Skin corrosion
- Skin Irrit.: Skin irritation
- Skin Sens.: Skin sensitisation
- STOT SE: Specific target organ toxicity - single exposure
- GB EH40: UK, EH40 WEL - Workplace Exposure Limits
- GB EH40 / STEL: Short-term exposure limit (15-minute reference period)

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:	Classification procedure:
Aquatic Chronic 1 H410	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.