

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



FORCE ST

Version	Revision Date:	SDS Number:	Date of last issue: 01.11.2024
5.0	20.02.2026	S163049846	Date of first issue: 09.06.2023

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

1.1 Product identifier

Trade name : FORCE ST

Design code : A13219F

Product Registration Number : MAPP 19042

Unique Formula Identifier (UFI) : R8NA-E0YP-400N-THKT

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
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)

Acute toxicity, Category 4	H332: Harmful if inhaled.
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.

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:	 
Signal word	:	Warning
Hazard statements	:	H332 Harmful if inhaled. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	Prevention: P261 Avoid breathing mist or vapours. P271 Use only outdoors or in a well-ventilated area. Response: P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. 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:

tefluthrin (ISO)

Additional Labelling

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

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.

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

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

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. 1; H330 Acute Tox. 2; H310 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 10,000 Acute toxicity estimate Acute oral toxicity: 21.8 mg/kg Acute inhalation toxicity (dust/mist): 0.0427 mg/l Acute dermal toxicity: 177 mg/kg	>= 10 - < 20
hydrocarbons, C9, aromatics	128601-23-0 649-356-00-4 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411 EUH066	>= 10 - < 20
sodium hydroxide	1310-73-2 215-185-5 011-002-00-6 01-2119457892-27-xxxx	Met. Corr. 1; H290 Acute Tox. 4; H312 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412	>= 1 - < 2

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		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-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6 01-2120761540-60-xxxx	Acute Tox. 4; H302 Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1 specific concentration limit Skin Sens. 1A; H317 >= 0.036 % Acute toxicity estimate Acute oral toxicity: 450 mg/kg Acute inhalation toxicity (dust/mist): 0.21 mg/l	>= 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.

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- 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.
- Risks : Harmful if inhaled.

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: 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
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).

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Exposure to decomposition products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)
Chlorine compounds
Fluorine compounds

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.

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 : 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 : No special storage conditions required. Keep containers tight-

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areas and containers

ly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

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) according to Regulation (EC) No. 1907/2006

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
sodium hydroxide	Consumers	Dermal	Long-term systemic effects	11 mg/kg
	Consumers	Oral	Long-term systemic effects	11 mg/kg
	Workers	Inhalation	Long-term local effects	1 mg/m ³
1,2-benzisothiazol-3(2H)-one	Consumers	Inhalation	Long-term local effects	1 mg/m ³
	Workers	Inhalation	Long-term systemic effects	6.81 mg/m ³
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
1,2-benzisothiazol-3(2H)-one	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) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l

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	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/kg
	Marine sediment	0.00499 mg/kg
	Freshwater - intermittent	0.0011 mg/l
	Marine water - intermittent	0.000110 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/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. 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 : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Suitable respiratory equipment:
Respirator with a particle filter (EN 143)
The filter class for the respirator must be suitable for the maximum expected contaminant concentration

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(gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Filter type : Particulates type (P)

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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid, opaque

Colour : white to beige

Odour : characteristic

Odour Threshold : No data available

Melting point/freezing point : No data available

Initial boiling point and 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 : Method: Seta closed cup, Equilibrium method does not flash

Auto-ignition temperature : 601 °C

Decomposition temperature : No data available

pH : 11.0
Concentration: 100 %w/v

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Viscosity
Viscosity, dynamic : 6,940 mPa,s (20 °C)
4,440 mPa,s (40 °C)
Viscosity, kinematic : 6510 mm²/s (20 °C)
4165 mm²/s (40 °C)

Solubility(ies)
Solubility in other solvents : Solvent: Water
Miscible

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

Vapour pressure : No data available

Density : 1.066 g/cm³

Relative vapour density : No data available

Particle characteristics
Particle size : No data available

9.2 Other information

Explosives : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Evaporation rate : No data available
Surface tension : 65.2 mN/m, 25 °C

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

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Materials to avoid : None known.

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Acute toxicity

Harmful if inhaled.

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/mixture is not toxic on inhalation as defined by dangerous goods regulations.

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): 3,492 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6,193 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

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sodium hydroxide:

Acute dermal toxicity : Assessment: The component/mixture is moderately toxic after single contact with skin.

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

Acute oral toxicity : Acute toxicity estimate: 450 mg/kg
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

Acute inhalation toxicity : Acute toxicity estimate: 0.21 mg/l
Test atmosphere: dust/mist
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

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

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

Product:

Species : Rabbit
Result : No skin irritation

Components:

tefluthrin (ISO):

Species : Rabbit
Result : No skin irritation

hydrocarbons, C9, aromatics:

Result : No skin irritation

Result : Repeated exposure may cause skin dryness or cracking.

sodium hydroxide:

Result : Corrosive

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

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

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Components:

tefluthrin (ISO):

Species : Rabbit
Result : No eye irritation

hydrocarbons, C9, aromatics:

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

Skin sensitisation

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

Respiratory sensitisation

Not classified due to lack of data.

Product:

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

Components:

tefluthrin (ISO):

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

hydrocarbons, C9, aromatics:

Result : Does not cause skin sensitisation.

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

Result : Probability or evidence of high skin sensitisation rate in humans

Germ cell mutagenicity

Not classified due to lack of data.

Components:

tefluthrin (ISO):

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

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essment

hydrocarbons, C9, aromatics:

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

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

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

Carcinogenicity

Not classified due to lack of data.

Components:

tefluthrin (ISO):

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

hydrocarbons, C9, aromatics:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

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

Carcinogenicity - Assessment : No data available

Reproductive toxicity

Not classified due to lack of data.

Components:

tefluthrin (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

hydrocarbons, C9, aromatics:

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity, No effects on or via lactation

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

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

No effects on or via lactation

STOT - single exposure

Not classified due to lack of data.

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Components:

hydrocarbons, C9, aromatics:

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

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

sodium hydroxide:

Exposure routes : Inhalation
Target Organs : Respiratory Tract
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

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

Remarks : No data available

STOT - repeated exposure

Not classified due to lack of data.

Components:

tefluthrin (ISO):

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

hydrocarbons, C9, aromatics:

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

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

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

Aspiration toxicity

Not classified due to lack of data.

Components:

hydrocarbons, C9, aromatics:

May be fatal if swallowed and enters airways.

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

No aspiration toxicity classification

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11.2 Information on other hazards

Endocrine disrupting properties

Not classified due to lack of data.

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.

Components:

tefluthrin (ISO):

Assessment : Substance does not have endocrine disrupting properties.

Further information

Product:

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

Components:

tefluthrin (ISO):

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

SECTION 12: Ecological information

12.1 Toxicity

Components:

tefluthrin (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.00006 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Americamysis): 0.000053 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (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

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Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 0.0000096 mg/l
Exposure time: 28 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10: 0.000009 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

NOEC: 0.000002 mg/l
Exposure time: 28 d
Species: Americamysis

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

hydrocarbons, C9, aromatics:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3.2 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 2.9 mg/l
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 1 mg/l
End point: Growth rate
Exposure time: 72 h

Toxicity to fish (Chronic toxicity) : NOEC: 1.23 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 2.14 mg/l
Exposure time: 21 d
Species: Daphnia (water flea)

Ecotoxicology Assessment

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

sodium hydroxide:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): > 34.59 - < 47.13 mg/l
Exposure time: 48 h

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

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

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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

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.055 mg/l
End point: Growth rate
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC: 0.21 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)

M-Factor (Chronic aquatic toxicity) : 1

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: Not readily biodegradable.

12.3 Bioaccumulative potential

Components:

tefluthrin (ISO):

Bioaccumulation : Remarks: Bioaccumulates

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

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Components:

tefluthrin (ISO):

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

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

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

Components:

tefluthrin (ISO):

Assessment : Substance does not have endocrine disrupting properties.

12.7 Other adverse effects

Components:

tefluthrin (ISO):

Assessment : Substance is not persistent, mobile, and toxic (PMT).
Substance is not very persistent and very mobile (vPvM).

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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.
- Waste Code : uncleaned packagings
15 01 10, packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID number

- ADN : UN 3082
ADR : UN 3082
RID : UN 3082
IMDG : UN 3082
IATA : UN 3082

14.2 UN proper shipping name

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

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14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 9	
ADR	: 9	
RID	: 9	
IMDG	: 9	
IATA	: 9	

14.4 Packing group

ADN
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.

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

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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

ADN

Environmentally hazardous : yes

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 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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SECTION 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

Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.

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

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

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

Regulation (EU) 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

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 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.

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.

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H304	: May be fatal if swallowed and enters airways.
H310	: Fatal in contact with skin.
H312	: Harmful 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.
H412	: Harmful to aquatic life with long lasting effects.
EUH066	: Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
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
Syngenta	: Syngenta Occupational Exposure Limit
GB EH40 / STEL	: Short-term exposure limit (15-minute reference period)
Syngenta / TWA	: Time weighted average

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

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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; 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:

Acute Tox. 4	H332
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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