

Safety Data Sheet

TWINLINE FUNGICIDE

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Version: 4.0

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(30564128/SDS_CPA_CA/EN)

1. Identification

Product identifier used on the label

TWINLINE FUNGICIDE

Recommended use of the chemical and restriction on use

Recommended use*: fungicide

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF Canada Inc.
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Mississauga, ON L5R 4H1, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

CANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Molecular formula: C₁₉H₁₈ClN₃O₄ ; C₁₇H₂₂ClN₃O
PCP # 30337, 30338
Synonyms: Pyraclostrobin + Metconazole

2. Hazards Identification

According to Controlled Products Regulations (CPR) (SOR/88-66)

Emergency overview

DANGER:
POISON.
Skin Irritant
Eye irritant.
KEEP OUT OF REACH OF CHILDREN.
Fatal if swallowed.

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Harmful if inhaled.
Severely irritating to the eyes.
May cause skin irritation.
Avoid inhalation of dusts/mists/vapours.
Do not get in eyes, on skin, or on clothing.
Wash thoroughly after handling.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical name</u>
175013-18-0	< 12.0%	Pyraclostrobin
125116-23-6	< 8.0%	Metconazole
91-57-6	< 5.0%	Naphthalene, 2-methyl-
91-20-3	< 3.0%	naphthalene
90-12-0	< 2.0%	Naphthalene, 1-methyl-
108-32-7	< 20.0%	propylene carbonate

4. First-Aid Measures

Description of first aid measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Immediately wash thoroughly with soap and water, seek medical attention.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention. Do not induce vomiting due to aspiration hazard.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Hazards: Vomiting may cause aspiration pneumonia due to the ingredients. Because of the increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent, vomiting should be induced only under professional supervision.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no

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known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam, dry powder, carbon dioxide, water spray

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, Hydrogen chloride, nitrogen oxides, organochloric compounds
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Remove contaminated clothing and protective equipment before entering eating areas.

Protection against fire and explosion:

The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to

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national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Conditions for safe storage, including any incompatibilities

Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

Protect from temperatures below: 0 °C

Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.

Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Components with occupational exposure limits

naphthalene	OSHA PEL	PEL 10 ppm 50 mg/m ³ ; STEL value 15 ppm 75 mg/m ³ ; TWA value 10 ppm 50 mg/m ³ ;
	ACGIH TLV	TWA value 10 ppm ; STEL value 15 ppm ; Skin Designation ; The substance can be absorbed through the skin.
solvent naphtha	OSHA PEL	PEL 100 ppm 400 mg/m ³ ; TWA value 100 ppm 400 mg/m ³ ;
Naphthalene, 1-methyl-	ACGIH TLV	TWA value 0.5 ppm ; Skin Designation ; The substance can be absorbed through the skin.
Naphthalene, 2-methyl-	ACGIH TLV	TWA value 0.5 ppm ; Skin Designation ; The substance can be absorbed through the skin.

Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure

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demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	liquid
Odour:	faintly aromatic
Odour threshold:	Not determined since toxic by inhalation.
Colour:	yellow, clear
pH value:	approx. 4.5 - 6.5 (1 %(m), 25 °C) (as an emulsion)
Freezing point:	approx. -20 °C Information applies to the solvent.
Boiling range:	200 - 320 °C Information applies to the solvent.
Flash point:	113 °C (ASTM D3278)
Flammability:	not applicable
Autoignition:	approx. 407 °C The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.
Vapour pressure:	approx. < 0.1 kPa (25 °C) Information applies to the solvent.
Density:	approx. 1.08 g/cm ³ (20 °C)
Partitioning coefficient n-octanol/water (log Pow):	not applicable
Thermal decomposition:	225 °C carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.

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Viscosity, dynamic:	52 mPa.s (20 °C)
Viscosity, kinematic:	approx. 18.5 mm ² /s (40 °C)
Solubility in water:	emulsifiable, insoluble
Evaporation rate:	not applicable
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties:
Not an oxidizer.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

The product is chemically stable.
Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged storage. Avoid electro-static discharge. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures.

Incompatible materials

strong acids, strong bases, strong oxidizing agents

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
225 °C

Possible thermal decomposition products:
carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons
Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

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Acute toxicity

Assessment of acute toxicity: Of high toxicity after single ingestion. Of high toxicity after short-term inhalation. Virtually nontoxic after a single skin contact.

Oral

Type of value: LD50
Species: rat (female)
Value: > 50 - < 300 mg/kg

Inhalation

Type of value: LC50
Species: rat
Value: 0.95 mg/l
Exposure time: 4 h
An aerosol was tested.

Dermal

Type of value: LD50
Species: rat
Value: > 5,000 mg/kg

Assessment other acute effects

Assessment of STOT single:
The available information is not sufficient for the evaluation of specific target organ toxicity.

Irritation / corrosion

Assessment of irritating effects: May cause slight irritation to the skin. Causes substantial but temporary eye injury.

Skin

Species: rabbit
Result: non-irritant

Eye

Species: rabbit
Result: Irritant.

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

modified Buehler test

Species: guinea pig
Result: Skin sensitizing effects were not observed in animal studies.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Pyraclostrobin

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. The substance may cause damage to the olfactory epithelium after repeated inhalation.

Information on: Metconazole

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Assessment of repeated dose toxicity: Adaptive effects were observed after repeated exposure in animal studies.

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Metconazole

Assessment of carcinogenicity: In long-term studies in rodents exposed to high doses, a tumorigenic effect was found; however, these results are thought to be due to a rodent-specific liver effect that is not relevant to humans.

Information on: solvent naphtha

Assessment of carcinogenicity: Long-term exposure to highly irritating concentrations resulted in skin tumors in animals. A carcinogenic effect in humans can be excluded after brief skin contact. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: naphthalene

Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by inhalation, a carcinogenic effect was observed. EU-classification The substance was classified as a group 3 carcinogen by the German MAK-Commission (substances for which a suspicion of a carcinogenic potential exists). IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans). IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans).

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Metconazole

Assessment of teratogenicity: Indications of possible developmental toxicity/teratogenicity were seen in animal studies.

Other Information

Misuse can be harmful to health.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Medical conditions aggravated by overexposure

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Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Very toxic (acute effect) to aquatic organisms.

Toxicity to fish

LC50 (96 h) 0.15 mg/l, *Lepomis macrochirus* (static)

Aquatic invertebrates

EC50 (48 h) 0.08675 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

Aquatic plants

EC50 (72 h) 6.9 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

Assessment of terrestrial toxicity

With high probability not acutely harmful to terrestrial organisms.

Bioaccumulative potential

Bioaccumulation potential

Information on: pyraclostrobin

*Bioconcentration factor: 379 - 507, *Oncorhynchus mykiss* (OECD-Guideline 305)
Accumulation in organisms is not to be expected.*

Information on: metconazole

*Bioconcentration factor: 51 - 80, *Lepomis macrochirus*
Does not accumulate in organisms.*

Mobility in soil

Assessment transport between environmental compartments

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: pyraclostrobin

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Information on: metconazole

*The substance will not evaporate into the atmosphere from the water surface.
Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.*

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Additional information

Other ecotoxicological advice:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:

See product label for disposal and recycling instructions.

Container disposal:

Rinse the container or liner as needed for disposal. Add rinsate to spray tank. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. Consult the product label for additional details.

14. Transport Information

Land transport

TDG

Hazard class:	6.1
Packing group:	III
ID number:	UN 2902
Hazard label:	6.1, EHSM
Proper shipping name:	PESTICIDE, LIQUID, TOXIC, N.O.S. (contains SOLVENT NAPHTHA, PYRACLOSTROBIN, METCONAZOLE)

Sea transport

IMDG

Hazard class:	6.1
Packing group:	III
ID number:	UN 2902
Hazard label:	6.1, EHSM
Marine pollutant:	YES
Proper shipping name:	PESTICIDE, LIQUID, TOXIC, N.O.S. (contains SOLVENT NAPHTHA, PYRACLOSTROBIN, METCONAZOLE)

Air transport

IATA/ICAO

Hazard class:	6.1
Packing group:	III
ID number:	UN 2902
Hazard label:	6.1
Proper shipping name:	PESTICIDE, LIQUID, TOXIC, N.O.S. (contains SOLVENT NAPHTHA, PYRACLOSTROBIN, METCONAZOLE)

15. Regulatory Information

Federal Regulations

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Registration status:

Crop Protection DSL, CA released / exempt

Chemical DSL, CA blocked / not listed

According to Controlled Products Regulations (CPR) (SOR/88-66)

WHMIS does not apply to this product.

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2016/11/02

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET