

Safety Data Sheet

HEADLINE DUO TWO

Revision date : 2011/04/12

Version: 1.2

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(30233231/SDS_CPA_CA/EN)

1. Product and Company Identification

Use: crop protection product, fungicide

CompanyBASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA24 Hour Emergency Response InformationCANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Molecular formula:	C ₁₈ H ₁₂ Cl ₂ N ₂ O
Chemical family:	carboxylic acid amide
28863	
Synonyms:	boscalid

2. Hazards Identification

Emergency overviewCAUTION:
POISON.
Potential skin sensitizer.
WARNING:
Causes eye irritation.
KEEP OUT OF REACH OF CHILDREN.
HARMFUL IF SWALLOWED.
Do not get in eyes, on skin, or on clothing.State of matter: solid
Colour: beige to brown
Odour: faint odourPotential health effects**Acute toxicity:**
Harmful if swallowed.**Irritation / corrosion:**
Irritating to eyes and respiratory system. Prolonged contact with the product can result in skin irritation.**Sensitization:**
Skin sensitizing effects were not observed in animal studies. Some individuals may develop an allergic dermatitis.**Medical conditions aggravated by overexposure:**

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Individuals with allergic history or pre-existing dermatitis should use extra precautions when handling this product.

Potential environmental effects

Aquatic toxicity:

Acutely toxic for aquatic organisms.

Terrestrial toxicity:

With high probability not acutely harmful to terrestrial organisms.

Degradation / environmental fate:

Not readily biodegradable (by OECD criteria).

3. Composition / Information on Ingredients

Not WHMIS controlled.

4. First-Aid Measures

If inhaled:

Keep patient calm, remove to fresh air. Assist in breathing if necessary. Consult a physician.

If on skin:

Wash affected areas thoroughly with soap and water. Remove contaminated clothing. If irritation develops, seek medical attention.

If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.

If swallowed:

Rinse mouth and then drink plenty of water. Do not induce vomiting. Immediate medical attention required.

Note to physician

Antidote: No known specific antidote.

Treatment: Treat symptomatically.

5. Fire-Fighting Measures

Self-ignition temperature: not self-igniting

Suitable extinguishing media:

foam, dry powder, carbon dioxide, water spray

Hazards during fire-fighting:

carbon monoxide, carbon dioxide, Hydrocarbons, halogenated hydrocarbons, nitrogen oxides, acid halides
If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released if the product is involved in a fire.

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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6. Accidental release measures

Personal precautions:

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.

Cleanup:

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

Handling

General advice:

Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

Dust can form an explosive mixture with air.

8. Exposure Controls and Personal Protection

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

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection:

Chemical resistant protective gloves, Suitable materials, rubber, plastic

Eye protection:

Tightly fitting safety goggles (chemical goggles).

General safety and hygiene measures:

Avoid inhalation of dust. Wash soiled clothing immediately.

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9. Physical and Chemical Properties

Form:	granules	
Odour:	faint odour	
Odour threshold:	No data available.	
Colour:	beige to brown	
pH value:	5.5	(10 g/l)
Melting point:		The substance / product decomposes therefore not determined.
Vapour pressure:		negligible
Relative density:	approx. 1.497	(20 °C)
Bulk density:	470 - 600 kg/m ³	
Solubility in water:		dispersible
Molar mass:	343.21 g/mol	

10. Stability and Reactivity

Dust explosion class:

Dust explosion class 2 (Kst-value 200 up to 300 bar m s⁻¹) (St 2)

Substances to avoid:

oxidizing agents

Corrosion to metals:

Corrosive effects to metal are not anticipated.

Oxidizing properties:

not fire-propagating

11. Toxicological information

Acute toxicity

Oral:

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg (OECD Guideline 423)

Test conducted with a similar formulation.

Inhalation:

Type of value: LC50

Species: rat (male/female)

Value: > 5.4 mg/l (OECD Guideline 403)

Exposure time: 4 h

Test conducted with a similar formulation.

Dermal:

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg (OECD Guideline 402)

Test conducted with a similar formulation.

Irritation / corrosion

Skin:

Species: rabbit

Result: non-irritant

Method: OECD Guideline 404

Test conducted with a similar formulation.

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Species: rabbit
Result: non-irritant

Eye:

Species: rabbit
Result: Slightly irritating.
Method: OECD Guideline 405
Test conducted with a similar formulation.

Sensitization:

modified Buehler test
Species: guinea pig
Result: Skin sensitizing effects were not observed in animal studies.
Method: OECD Guideline 406
Test conducted with a similar formulation.

Genetic toxicity

Information on: Boscalid
The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture.

Carcinogenicity

Information on: Boscalid
In long-term studies in rats the substance induced thyroid tumors.

Reproductive toxicity

Information on: Boscalid
The results of animal studies gave no indication of a fertility impairing effect.

Development:

Information on: Boscalid
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Other Information:

Misuse can be harmful to health.

12. Ecological Information

Fish

Information on: Boscalid
Acute:
Oncorhynchus mykiss/LC50 (96 h): 2.7 mg/l
Lepomis macrochirus/LC50: > 4.0 mg/l
Nominal concentration.

Aquatic invertebrates

Acute:
static
Daphnia magna/EC50 (48 h): > 1,000 mg/l

Aquatic plants

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Toxicity to aquatic plants:
green algae/EC50: 45 mg/l

green algae/EC50 (72 h): 150 mg/l

Degradability / Persistence Biological / Abiological Degradation

Evaluation: Not readily biodegradable (by OECD criteria).

Information on: Boscalid

Test method: OECD 301F; ISO 9408; 92/69/EEC, C.4-D, activated sludge, domestic

Degree of elimination: 0 - 10 % (28 d)

Bioaccumulation

Information on: Boscalid

No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

13. Disposal considerations

Waste disposal of substance:

See product label for disposal and recycling instructions.

14. Transport Information

Reference Bill of Lading

15. Regulatory Information

Federal Regulations

Registration status:

Chemical DSL, CA released; restriction on quantity / not listed

Crop Protection DSL, CA released / exempt

WHMIS does not apply to this product.

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

16. Other Information

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

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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.

MSDS Prepared by:

BASF NA Product Regulations

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MSDS Prepared on: 2011/04/12

END OF DATA SHEET