

Safety Data Sheet

CADENCE

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Version: 2.1

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(30231114/SDS_CPA_CA/EN)

1. Product and Company Identification

Company

BASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

24 Hour Emergency Response Information

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

Molecular formula:	C18 H12 Cl2 N2 O
Chemical family:	carboxylic acid amide
PCP # 27496	
Synonyms:	boscalid

2. Hazards Identification

Emergency overview

CAUTION:
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
Odour: moderate odour, smoky

Potential health effects

Acute toxicity:

Moderately toxic after single ingestion. Slightly toxic after short-term skin contact. Slightly toxic after short-term inhalation.

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:

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

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Signs and symptoms of overexposure:

No significant reaction of the human body to the product known.

Potential environmental effects

Aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Terrestrial toxicity:

With high probability not acutely harmful to terrestrial organisms.

3. Composition / Information on Ingredients

Not WHMIS controlled.

4. First-Aid Measures

General advice:

First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If inhaled:

Remove the affected individual into fresh air and keep the person calm.

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

Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Flash point:

not applicable

Lower explosion limit:

As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.

Upper explosion limit:

As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.

Flammability:

Product is combustible.

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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.

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.

Storage

General advice:

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.

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Storage incompatibility:

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

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).

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:

Avoid inhalation of dust. Wash soiled clothing immediately.

9. Physical and Chemical Properties

Form:	granules	
Odour:	moderate odour, smoky	
Odour threshold:	No data available.	
Colour:	beige	
pH value:	approx. 4.5 - 6.5	(10 g/l, 20 °C)
Melting point:	> 20 °C	
boiling temperature:		The product is a non-volatile solid.
Vapour pressure:		negligible
Vapour density:		not determined
Partitioning coefficient n-octanol/water (log Pow):		not applicable
Viscosity, dynamic:		not applicable
Solubility in water:		dispersible
Molar mass:	343.21 g/mol	

10. Stability and Reactivity

Dust explosivity characteristics:

Kst: 265 m.bar/s
Pmax = 7.2 BARA

Dust explosion class:

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

Minimum ignition energy:

36 - 45 mJ

Conditions to avoid:

Limiting oxygen concentration: 10.5 volume %

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Avoid all sources of ignition: heat, sparks, open flame. This product may form an explosive mixture if: 1. the dust is suspended in the atmosphere as a dust cloud AND 2. the concentration of the dust is above the lower explosion limit (LEL) AND 3. the limiting oxygen concentration (LOC) is exceeded.

Substances to avoid:

oxidizing agents

Hazardous reactions:

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

Decomposition products:

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

Thermal decomposition:

215 °C (DSC (DIN 51007))

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons

If product is heated above decomposition temperature, toxic vapours will be released. Stable at ambient temperature.

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)

Inhalation:

Type of value: LC50

Species: rat (male/female)

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

Exposure time: 4 h

Dermal:

Type of value: LD50

Species: rat (male/female)

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

Irritation / corrosion

Skin:

Species: rabbit

Result: non-irritant

Eye:

Species: rabbit

Result: Slightly irritating.

Method: OECD Guideline 405

Sensitization:

modified Buehler test

Species: guinea pig

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

Method: OECD Guideline 406

Repeated dose toxicity

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*Information on: 3-Pyridinecarboxamide, 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-
Assessment of repeated dose toxicity:
Adaptive effects were observed after repeated exposure in animal studies.*

Genetic toxicity

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

Carcinogenicity

*Information on: 3-Pyridinecarboxamide, 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-
In long-term studies in rats the substance induced thyroid tumors. The effect is caused by an animal specific mechanism that has no human counter part. In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.*

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

Acute:
Cyprinus carpio/LC50 (96 h): 420 mg/l

Aquatic invertebrates

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

Aquatic plants

Toxicity to aquatic plants:
green algae/EC50 (72 h): 150 mg/l

Bioaccumulation

*Information on: 3-Pyridinecarboxamide, 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-
Rainbow trout (28 d) Bioconcentration factor 57 - 70
Does not accumulate in organisms.*

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Environmental mobility:

Information on: 3-Pyridinecarboxamide, 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-

Assessment transport between environmental compartments:

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

Other adverse effects:

Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:

See product label for disposal and recycling instructions.

Container disposal:

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. Transport Information

Land transport

TDG

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection DSL, CA released / exempt

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

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.

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16. Other Information

Recommended use: fungicide

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.

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SDS Prepared on: 2013/11/20

END OF DATA SHEET