

# Safety Data Sheet

## Surtain

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### 1. Identification

#### Product identifier used on the label

**Surtain**

#### Recommended use of the chemical and restriction on use

Recommended use\*: herbicide

Unsuitable for use: Uses other than recommended

\* 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.  
5025 Creekbank Road  
Building A, Floor 2  
Mississauga, ON, L4W 0B6, CANADA

Telephone: +1 289 360-1300

#### Emergency telephone number

##### 24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: (800) 454-COPE (2673)

#### Other means of identification

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### 2. Hazards Identification

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

##### Classification of the product

Repr.	2 (unborn child)	Reproductive toxicity
STOT RE	2	Specific target organ toxicity — repeated exposure
Aquatic Acute	1	Hazardous to the aquatic environment - acute

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Aquatic Chronic

1

Hazardous to the aquatic environment - chronic

### Label elements

Pictogram:



Signal Word:  
Warning

Hazard Statement:

H361 Suspected of damaging the unborn child.  
H373 May cause damage to organs (Kidney, Liver, Heart, Nervous system, Urinary organs) through prolonged or repeated exposure.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P273 Avoid release to the environment.  
P280 Wear protective gloves, protective clothing and eye protection or face protection.  
P260 Do not breathe mist or vapour.  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.

Precautionary Statements (Response):

P308 + P313 IF exposed or concerned: Get medical attention.  
P391 Collect spillage.

Precautionary Statements (Storage):

P405 Store locked up.

Precautionary Statements (Disposal):

P501 Dispose of contents/container in accordance with local regulations.

### Hazards not otherwise classified

Labeling of special preparations (GHS):

Product contains the following components and may cause an allergic skin reaction: The substance may cause sensitization of the skin in particularly sensitive individuals. Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. 1,2-benzisothiazol-3(2H)-one, mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

## 3. Composition / Information on Ingredients

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

Saflufenacil

CAS Number: 372137-35-4  
Content (W/W): 6.82 %

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Synonym: Saflufenacil

Pyroxasulfone

CAS Number: 447399-55-5

Content (W/W): 10.91 %

Synonym: No data available.

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

CAS Number: 2634-33-5

Content (W/W): 0.033 %

Synonym: No data available.

bronopol

CAS Number: 52-51-7

Content (W/W): 0.0216 %

Synonym: 2-Bromo-2-nitro-1,3-propanediol; Bronopol

mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

CAS Number: 55965-84-9

Content (W/W): 0.0012 %

Synonym: 5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone

Ammonium compound

CAS Number: Trade Secret

Content (W/W):  $\geq 0.3$  -  $< 1.0\%$

Synonym: No data available.

Sodium dodecyl sulphate (granules, bulk density  $> 400$  g/L)

CAS Number: Trade Secret

Content (W/W):  $\geq 0.1$  -  $< 0.2\%$

Synonym: No data available.

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## 4. First-Aid Measures

### Description of 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. In case of intoxication, call a poison control center or physician for treatment advice, taking the packaging or the label of the product.

#### If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

#### If on skin:

Rinse skin immediately with plenty of water for 15 - 20 minutes.

#### If in eyes:

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

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### If swallowed:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

### Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

### Indication of any immediate medical attention and special treatment needed

#### Note to physician

Antidote:	No known specific antidote.
Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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## 5. Fire-Fighting Measures

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

### Special hazards arising from the substance or mixture

Hazards during fire-fighting:  
carbon monoxide, carbon dioxide, Hydrogen chloride, hydrogen bromide, hydrogen fluoride, nitrogen oxides, halogenated compounds, sulfur oxides, silica compounds  
The substances/groups of substances mentioned can be released in case of fire.

### Advice for fire-fighters

Protective equipment for fire-fighting:  
Wear self-contained breathing apparatus and chemical-protective clothing.

### Further information:

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

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## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

### Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

### 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

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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.

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## 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.

Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

### Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

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.

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## 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

Saflufenacil TWA value 0.824 mg/m<sup>3</sup> ;

Pyroxasulfone TWA value 0.138 mg/m<sup>3</sup> ;

### **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) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. 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 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.

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### Eye protection:

Safety glasses with side-shields. Wear face shield or tightly fitting safety goggles (chemical goggles) 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). Remove 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:	faint, woody
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	light brown
pH value:	approx. 5 - 7 ( 20 °C)
Melting point:	The product has not been tested.
Boiling point:	The product has not been tested.
Flash point:	Non-flammable.
Flammability:	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.
Autoignition:	Based on the water content the product does not ignite.
Vapour pressure:	approx. 23.4 hPa ( 20 °C) Information applies to the solvent.
Density:	approx. 1.1 g/cm3 ( 20 °C)
Vapour density:	not applicable
Partitioning coefficient n-octanol/water (log Pow):	The statements are based on the properties of the individual components.
<i>Information on: Pyroxasulfone</i>	
Partitioning coefficient n-octanol/water (log Pow):	2.39 ( 25 °C)

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### Information on: saflufenacil

Partitioning coefficient n-octanol/water (log Pow): 2.6  
( 20 °C)

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Thermal decomposition: 110 °C, 20 kJ/kg  
(onset temperature)  
210 °C, 90 kJ/kg  
(onset temperature)  
270 °C, 300 kJ/kg  
(onset temperature)  
Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.  
Viscosity, dynamic: approx. 91 mPa.s  
( 20 °C)  
Solubility in water: dispersible  
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

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

### Conditions to avoid

See SDS section 7 - Handling and storage.

### 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:

110 °C

(onset temperature)

210 °C

(onset temperature)

270 °C

(onset temperature)

Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.

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### 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

##### Acute toxicity

Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

##### Oral

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg

No mortality was observed.

##### Inhalation

Type of value: LC50

Species: rat

Value: > 1.812 mg/l

No mortality was observed.

##### Dermal

Type of value: LD50

Species: rat

Value: > 5,000 mg/kg

##### Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

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

##### Irritation / corrosion

Assessment of irritating effects: Not irritating to eyes and skin.

##### Skin

Species: rabbit

Result: non-irritant

##### Eye

Species: rabbit

Result: non-irritant

##### Sensitization

Assessment of sensitization: No sensitizing effect.

Mouse Local Lymph Node Assay (LLNA)

Species: mouse

Result: Non-sensitizing.



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Aspiration Hazard  
not applicable

### 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: bronopol*

*Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation.*

*Information on: Ammonium compound*

*Assessment of repeated dose toxicity: After repeated administration the prominent effect is the induction of corrosion. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.*

*Information on: saflufenacil*

*Assessment of repeated dose toxicity: Repeated oral uptake of the substance did not cause substance-related effects.*

*Information on: Pyroxasulfone*

*Assessment of repeated dose toxicity: Repeated oral exposure to small quantities may affect certain organs.*

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#### Genetic toxicity

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

*Information on: bronopol*

*Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was mutagenic in various cell culture test systems; however, these results could not be confirmed in tests with mammals.*

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#### Carcinogenicity

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

*Information on: Pyroxasulfone*

*Assessment of carcinogenicity: When given in high doses, the substance was carcinogenic in animal studies. Based on its mechanism of action, a carcinogenic potential is not expected after exposure to low doses.*

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#### 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

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

*Information on: saflufenacil*

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

### Other Information

Misuse can be harmful to health.

## 12. Ecological Information

### Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

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

#### Toxicity to fish

*Information on: Pyroxasulfone*

*LC50 (96 h) > 2.2 mg/l, Oncorhynchus mykiss*

*Information on: saflufenacil*

*LC50 (96 h) > 96.8 mg/l, Pimephales promelas (OECD Guideline 203, static)*

#### Aquatic invertebrates

*Information on: Pyroxasulfone*

*EC50 (48 h) > 4.4 mg/l, daphnia*

*Information on: saflufenacil*

*EC50 (96 h) 8.0 mg/l, Daphnia magna (static)*

#### Aquatic plants

*Information on: Pyroxasulfone*

*EC50 (7 d) 0.0055 mg/l, algae*

*EC50 (72 h) 0.000743 mg/l, algae*

*Information on: saflufenacil*

*EC50 (96 h) 0.113 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)*

#### Chronic toxicity to fish

*Information on: Pyroxasulfone*

*No observed effect concentration (28 d) 2.0 mg/l, Pimephales promelas*

*Information on: saflufenacil*

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*No observed effect concentration (33 d)  $\geq$  10 mg/l, Pimephales promelas*  
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### Chronic toxicity to aquatic invertebrates

*Information on: Pyroxasulfone*

*No observed effect concentration (21 d) 1.9 mg/l, Daphnia sp.*

*Information on: saflufenacil*

*No observed effect concentration (21 d) 2.5 mg/l, Daphnia magna*  
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### **Persistence and degradability**

#### Assessment biodegradation and elimination (H<sub>2</sub>O)

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

#### Assessment biodegradation and elimination (H<sub>2</sub>O)

*Information on: Pyroxasulfone*

*Not readily biodegradable (by OECD criteria).*

*Information on: saflufenacil*

*Not readily biodegradable (by OECD criteria).*  
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### **Bioaccumulative potential**

#### Assessment bioaccumulation potential

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

#### Assessment bioaccumulation potential

*Information on: Pyroxasulfone*

*Information on: saflufenacil*

*Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.*  
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### **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: saflufenacil*

*Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.*  
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### Additional information

Other ecotoxicological advice:  
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:

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

Not classified as a dangerous good under transport regulations

### Sea transport

IMDG

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Marine pollutant:	YES
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains PYROXASULFONE, SAFLUFENACIL)

### Air transport

IATA/ICAO

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains PYROXASULFONE, SAFLUFENACIL)

### Further information

Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3)

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## 15. Regulatory Information

### Federal Regulations

#### **Registration status:**

Crop Protection      DSL, CA      released / exempt

#### **Labeling requirements under Pest Control Products Act**

Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product regulated by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label:

#### **WARNING:**

Contains the allergen soy.

Contains the allergen sulfite(s).

#### **CAUTION:**

Skin Irritant

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN.

MAY CAUSE SKIN IRRITATION.

DO NOT take internally.

Avoid contact with the skin, eyes and clothing.

Wear coveralls over long-sleeved shirt and long pants, socks and chemical resistant footwear.

Wear protective eyewear (goggles or face shield).

Gloves are not required during application within a closed cab and/or cockpit.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove contaminated clothing and wash before reuse.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove PPE immediately after handling this product.

As soon as possible, wash thoroughly and change into clean clothing.

Keep and wash personal protective equipment separately from other laundry.

Apply only to agricultural crops when the potential for drift to areas of human habitation and areas of human activity such as houses, cottages, schools and recreational areas is minimal.

Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

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There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

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## 16. Other Information

#### **SDS Prepared by:**

BASF NA Product Regulations

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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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END OF DATA SHEET