

# Safety Data Sheet

## MARKSMAN

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### 1. Identification

#### Product identifier used on the label

**MARKSMAN**

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

Recommended use\*: herbicide

\* 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.  
100 Milverton Drive  
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

PCP # 19349, 30726

Synonyms: dicamba potassium salt ; atrazine

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### 2. Hazards Identification

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

##### Emergency overview

CAUTION:

POISON.

KEEP OUT OF REACH OF CHILDREN.

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

Irritating to skin.

Avoid contact with the skin, eyes and clothing.

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### 3. Composition / Information on Ingredients

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

Not WHMIS controlled.

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### 4. First-Aid Measures

#### Description of first aid measures

##### General advice:

Remove contaminated clothing.

##### If inhaled:

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

##### If on skin:

Wash thoroughly with soap and water.

##### 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.

#### 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.

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

##### Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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### 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 oxide, nitrogen dioxide, halogenated hydrocarbons, Hydrocarbons,

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.

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### 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.

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## 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

For small amounts: Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder).  
For large amounts: Dike spillage. Pump off product.  
Dispose of absorbed material in accordance with regulations.

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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:

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 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 foods and animal feeds.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight.

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.

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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

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ethylene glycol	OSHA PEL ACGIH TLV	CLV 50 ppm 125 mg/m <sup>3</sup> ; CLV 100 mg/m <sup>3</sup> aerosol ;
atrazine	OSHA PEL ACGIH TLV	TWA value 5 mg/m <sup>3</sup> ; TWA value 2 mg/m <sup>3</sup> Inhalable fraction ;
Distillates (petroleum), solvent-refined heavy paraffinic	OSHA PEL ACGIH TLV	PEL 500 ppm 2,000 mg/m <sup>3</sup> ; PEL 5 mg/m <sup>3</sup> Mist ; TWA value 5 mg/m <sup>3</sup> Mist ; ; Included in the regulation, but with no data values - See the regulation for further details ; Exposure by all routes should be carefully controlled to levels as low as possible. TWA value 5 mg/m <sup>3</sup> Inhalable fraction ;
Distillates (petroleum), solvent-dewaxed heavy paraffinic	OSHA PEL ACGIH TLV	PEL 500 ppm 2,000 mg/m <sup>3</sup> ; PEL 5 mg/m <sup>3</sup> Mist ; TWA value 5 mg/m <sup>3</sup> Mist ; ; Included in the regulation, but with no data values - See the regulation for further details ; Exposure by all routes should be carefully controlled to levels as low as possible. TWA value 5 mg/m <sup>3</sup> Inhalable fraction ;

**Advice on system design:**  
Ensure adequate ventilation.

### 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.

#### **Hand protection:**

Chemical resistant protective gloves

#### **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:**

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Take off immediately all contaminated clothing. Keep away from food, drink and animal feeding stuffs.

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## 9. Physical and Chemical Properties

Form: suspension

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Odour:	mild
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	brown
pH value:	8.5 - 10
Melting point:	approx. 0 °C Information based on the main components.
Boiling point:	approx. 100 °C Information based on the main components.
Flash point:	A flash point determination is unnecessary due to the high water content.
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.
Vapour pressure:	approx. 23 hPa ( 20 °C) Information applies to the solvent.
Density:	approx. 1.17 g/cm <sup>3</sup> ( 20 °C) approx. 9.686 lb/USg ( 68 °F)
Partitioning coefficient n-octanol/water (log Pow):	The statements are based on the properties of the individual components.
<i>Information on: dicamba</i>	
Partitioning coefficient n-octanol/water (log Pow):	-0.55 (OECD Guideline 107) -1.8 (OECD Guideline 107) -1.9 (OECD Guideline 107) ( 25 °C)
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Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.
Thermal decomposition:	carbon monoxide, carbon dioxide, Hydrogen chloride, halogenated hydrocarbons, nitrogen dioxide, nitrogen oxide, Hydrocarbons Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.
Viscosity, dynamic:	approx. 380 mPa.s ( 20 °C)
Solubility in water:	miscible
Evaporation rate:	not applicable

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Other Information: If necessary, information on other physical and chemical parameters is indicated in this section.

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## 10. Stability and Reactivity

### Reactivity

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

### Oxidizing properties:

Based on its structural properties the product is not classified as oxidizing.

### Chemical stability

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

### Possibility of hazardous reactions

No hazardous reactions when stored and handled according to instructions.

### 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 bases, strong acids, strong oxidizing agents

### Hazardous decomposition products

#### Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged thermal loading can result in products of degradation being given off.

#### Thermal decomposition:

##### Possible thermal decomposition products:

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

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.

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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: Relatively nontoxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

#### Oral

Type of value: LD50

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Species: rat (male/female)  
Value: 5,897 mg/kg

### Inhalation

Type of value: LC50  
Species: rat (male/female)  
Value: > 3.38 mg/l  
Exposure time: 4 h

### Dermal

Type of value: LD50  
Species: rabbit (male/female)  
Value: > 2,000 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: May cause slight irritation to the skin. May cause moderate but temporary irritation to the eyes.

### Skin

Species: rabbit  
Result: non-irritant

### Eye

Species: rabbit  
Result: non-irritant

### Sensitization

Assessment of sensitization: There is no evidence of a skin-sensitizing potential.

Skin sensitization test

Species: guinea pig  
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.

Danger of serious damage to health by prolonged exposure.

*Information on: Atrazine*

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

*Information on: ethylene glycol*

*Assessment of repeated dose toxicity: The substance may cause damage to the kidney after repeated ingestion. The substance may cause damage to the kidney after repeated skin contact with high doses.*

*Information on: crystalline silica*

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*Assessment of repeated dose toxicity: The substance may cause increase in lung mass and lung tissue changes after repeated inhalation.*

*This product may contain greater than 0.1% crystalline silica. Repeated exposure to high concentrations results in silicosis, a lung disease characterized by coughing, difficult breathing, wheezing, scarring of the lungs, and repeated, non-specific chest illnesses.*

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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. 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: Dicamba*

*Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.*

#### *Information on: atrazine*

*Assessment of carcinogenicity: The substance is not considered to pose a carcinogenic risk at low human exposure levels. In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.*

*In long-term animal studies in which the substance was given in high concentrations by feed, a carcinogenic effect was observed.*

*IARC Group 3 (not classifiable as to human carcinogenicity).*

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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

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

#### *Information on: ethylene glycol*

*Assessment of teratogenicity: In animal studies the substance caused malformations when given at high doses.*

*Embryotoxicity and teratogenicity was observed in animal studies, in the absence of maternal toxicity. However, the relevance of this result for humans is unclear.*

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### 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.

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## 12. Ecological Information



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### Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

#### Toxicity to fish

*Information on: dicamba*

LC50 (96 h) > 100 mg/l, *Oncorhynchus mykiss*

*Information on: Atrazine*

LC50 (96 h) 4.5 mg/l, *Oncorhynchus mykiss* (OECD 203; ISO 7346; 84/449/EEC, C.1)

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#### Aquatic invertebrates

*Information on: dicamba*

EC50 (48 h) 110.7 mg/l, *Daphnia magna*

*Information on: Atrazine*

EC50 (48 h) 6.9 mg/l, *Daphnia magna*

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#### Aquatic plants

*Information on: dicamba*

No observed effect concentration (72 h) 0.011 mg/l, *Skeletonema costatum*

*Information on: Atrazine*

EC50 (72 h) 0.049 mg/l, *Pseudokirchneriella subcapitata*

No observed effect concentration (10 h) 0.037 mg/l, *Lemna gibba*

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### Persistence and degradability

#### Assessment biodegradation and elimination (H2O)

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

#### Elimination information

*Information on: dicamba*

5 % BOD of COD (28 d) (OECD 301F; ISO 9408; 92/69/EEC, C.4-D) (aerobic, activated sludge, industrial) Not readily biodegradable (by OECD criteria).

*Information on: Atrazine*

7 - 14 % CO<sub>2</sub> formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, domestic sewage) Non-biodegradable.

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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.

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### Assessment bioaccumulation potential

*Information on: dicamba*

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

*Information on: Atrazine*  
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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.

### **Additional information**

Other ecotoxicological advice:

Do not discharge product into the environment without control.

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## 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.

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## 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, EHS
Marine pollutant:	YES
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DICAMBA)

### **Air transport**

IATA/ICAO

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHS

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Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S. (contains DICAMBA)

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### 15. Regulatory Information

#### Federal Regulations

##### **Registration status:**

Crop Protection DSL, CA released / exempt

Chemical DSL, CA released; restriction on use and qty. / listed

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

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

#### **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.

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END OF DATA SHEET