

# Safety Data Sheet

## Engenia Herbicide

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### 1. Identification

#### Product identifier used on the label

## Engenia Herbicide

#### 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 CORPORATION  
100 Park Avenue  
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

#### Emergency telephone number

CHEMTREC: 1-800-424-9300  
BASF HOTLINE: 1-800-832-HELP (4357)

#### Other means of identification

Substance number: 465190  
EPA Registration number: 7969-472  
Synonyms: Dicamba salt

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### 2. Hazards Identification

#### According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

#### Classification of the product

Acute Tox.	3 (Inhalation - mist)	Acute toxicity
Aquatic Acute	3	Hazardous to the aquatic environment - acute

#### Label elements

Pictogram:

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Signal Word:  
Danger

Hazard Statement:  
H331 Toxic if inhaled.  
H402 Harmful to aquatic life.

Precautionary Statements (Prevention):  
P271 Use only outdoors or in a well-ventilated area.  
P261 Avoid breathing mist.  
P273 Avoid release to the environment.

Precautionary Statements (Response):  
P311 Call a POISON CENTER or doctor/physician.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary Statements (Storage):  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

Precautionary Statements (Disposal):  
P501 Dispose of contents/container to hazardous or special waste collection point.

**According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

### Emergency overview

CAUTION:  
KEEP OUT OF REACH OF CHILDREN.  
KEEP OUT OF REACH OF DOMESTIC ANIMALS.  
HARMFUL IF SWALLOWED.  
HARMFUL IF INHALED.  
Avoid inhalation of mists/vapours.

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### 3. Composition / Information on Ingredients

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

The product contains:

<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical name</u>
1918-00-9	48.38 %	dicamba

**According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical name</u>
1286239-22-2	>= 60.0%	dicamba salt
	<= 40.0%	Proprietary ingredients

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### 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.

##### If swallowed:

Rinse mouth immediately and then drink plenty of water, induce vomiting, 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:  
water spray, carbon dioxide, foam, dry powder

Unsuitable extinguishing media for safety reasons:  
water jet

#### 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:  
Wear self-contained breathing apparatus and chemical-protective clothing.

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### 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 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

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. 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 against heat. Protect contents from the effects of light. 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. 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:

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 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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### 8. Exposure Controls/Personal Protection

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

No occupational exposure limits known.

#### **Advice on system design:**

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

#### **Personal protective equipment**

#### **RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:**

##### **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 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). 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.

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### 9. Physical and Chemical Properties

Form:	liquid
Odour:	odourless
Odour threshold:	Not determined since toxic by inhalation.
Colour:	yellow
pH value:	approx. 6.0 - 8.0 ( 1 %(m), 25 °C)
Melting point:	approx. 0 °C Information applies to the solvent.

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Boiling point:	approx. 100 °C Information applies to the solvent.
Flash point:	approx. > 100 °C Information applies to the solvent.
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 hPa ( 20 °C) Information applies to the solvent.
Density:	approx. 1.244 g/cm <sup>3</sup> ( 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: dicamb</i> Partitioning coefficient n-octanol/water (log Pow):	-1.8 ( 25 °C) (OECD Guideline 107)
----- Thermal decomposition:	carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. To avoid thermal decomposition, do not overheat.
Viscosity, dynamic:	approx. 67.49 mPa.s ( 20 °C) approx. 29.38 mPa.s ( 40 °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 fire-propagating

### Chemical stability

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

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### 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 extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged 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:

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. To avoid thermal decomposition, do not overheat.

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

#### Oral

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg

#### Inhalation

Type of value: LC50

Species: rat (male/female)

Value: 0.557 mg/l

Exposure time: 4 h

An aerosol was tested.

#### Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 5,000 mg/kg

No mortality was observed.

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### 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 moderate but temporary irritation to the eyes. May cause slight irritation to the skin.

### Skin

Species: rabbit

Result: non-irritant

### Eye

Species: rabbit

Result: non-irritant

### Sensitization

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

Mouse Local Lymph Node Assay (LLNA)

Species: mouse

Result: Non-sensitizing.

## **Chronic Toxicity/Effects**

### Repeated dose toxicity

Assessment of repeated dose toxicity: No substance-specific organotoxicity was observed after repeated administration to animals. The product has not been tested. The statement has been derived from the properties of the individual components.

### 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: Dicamba*

*Assessment of mutagenicity: Results from a number of mutagenicity studies with microorganisms, mammalian cell culture and mammals are available. Taking into account all of the information, there is no indication that the substance is mutagenic.*

### 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.*

### Reproductive toxicity



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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

*Information on: Dicamba*

*Assessment of teratogenicity: Causes developmental effects in animals at high, maternally toxic doses.*

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### Other Information

Inhalation data for mists/dusts were not used to classify this material for transportation because it is reasonably foreseeable that such concentrations would not be encountered by a human during transport (49CFR 173.132(b)(3)).

### **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

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

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## **12. Ecological Information**

### **Toxicity**

#### Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to fish. Acutely harmful for aquatic invertebrates. Acutely toxic for aquatic plants.

#### Toxicity to fish

LC50 (96 h) > 120 mg/l, Pimephales promelas (static)

#### Aquatic plants

No observed effect concentration (72 h) 11.6 mg/l (growth rate), Pseudokirchneriella subcapitata (static)

EC50 (72 h) 96.4 mg/l (growth rate), Pseudokirchneriella subcapitata (static)

#### Chronic toxicity to aquatic invertebrates

No observed effect concentration (21 d) > 100 mg/l, Daphnia magna

#### Aquatic invertebrates

*Information on: dicamb*

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

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### **Persistence and degradability**

Assessment biodegradation and elimination (H2O)

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*Information on: dicamb*  
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### **Bioaccumulative potential**

Bioaccumulation potential

*Information on: dicamb*  
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### **Additional information**

Other ecotoxicological advice:

The product should not be allowed to reach either sewage waters or water purification plants.

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## **13. Disposal considerations**

### **Waste disposal of substance:**

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

### **Container disposal:**

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

### **RCRA:**

The waste codes are manufacturer's recommendations based on the designated use of the product. Other use and special waste disposal treatment on customer's location may require different waste-code assignments. This product is not regulated by RCRA.

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## **14. Transport Information**

### **Land transport**

USDOT

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

### **Further information**

DOT: This product is regulated if the amount in a single receptacle exceeds the Reportable Quantity (RQ). Please refer to Section 15 of this MSDS for the RQ for this product.

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### 15. Regulatory Information

#### Federal Regulations

##### Registration status:

Chemical TSCA, US blocked / not listed

Crop Protection TSCA, US released / exempt

**EPCRA 311/312 (Hazard categories):** Acute;

##### EPCRA 313:

<u>CAS Number</u>	<u>Chemical name</u>
1918-00-9	dicamba

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
1000 LBS	1918-00-9	dicamba

#### State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
PA	1918-00-9	dicamba
MA	1918-00-9	dicamba
NJ	1918-00-9	dicamba

#### **Concentration**

<u>CAS Number</u>	<u>Chemical name</u>
1918-00-9	dicamba

#### **NFPA Hazard codes:**

Health : 2      Fire: 1      Reactivity: 1      Special:

#### **Labeling requirements under FIFRA**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

#### CAUTION:

KEEP OUT OF REACH OF CHILDREN.  
KEEP OUT OF REACH OF DOMESTIC ANIMALS.  
HARMFUL IF SWALLOWED.  
HARMFUL IF INHALED.  
Avoid inhalation of mists/vapours.

### 16. Other Information

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

BASF NA Product Regulations  
SDS Prepared on: 2017/01/16

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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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