

# Safety Data Sheet

## REZULT B

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### 1. Identification

**Product identifier used on the label**

**REZULT B**

**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 US 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:	24308
EPA Register number:	7969-194
Molecular formula:	C10 H11 N2 Na O3 S
Chemical family:	benzothiadiazole
Synonyms:	bentazon

### 2. Hazards Identification

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

**Classification of the product**

Acute Tox.	4 (oral)	Acute toxicity
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Skin Sens.	1B	Skin sensitization
Aquatic Acute	3	Hazardous to the aquatic environment - acute
Aquatic Chronic	3	Hazardous to the aquatic environment - chronic

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### Label elements

Pictogram:



Signal Word:  
Warning

Hazard Statement:

H319	Causes serious eye irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P270	Do not eat, drink or smoke when using this product.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P333 + P311	If skin irritation or rash occurs: Call a POISON CENTER or doctor/physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P362	IF ON SKIN (or hair): Wash with plenty of soap and water.
P301 + P330	IF SWALLOWED: rinse mouth.
P362 + P364	Take off contaminated clothing and wash before reuse.
P337 + P311	If eye irritation persists: Call a POISON CENTER or doctor/physician.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
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**According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

### Emergency overview

DANGER:

Corrosive to eyes.

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

MAY CAUSE ALLERGIC SKIN REACTION.

KEEP OUT OF REACH OF CHILDREN.

KEEP OUT OF REACH OF DOMESTIC ANIMALS.

Avoid contact with the skin, eyes and clothing.

### 3. Composition / Information on Ingredients

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

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<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
50723-80-3	55.9 %	bentazon

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

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
50723-80-3	55.9 %	bentazon
	44.1 %	Proprietary ingredients

## 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. 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:

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.

#### If swallowed:

Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Do not induce vomiting. Have person sip a glass of water if able to swallow.

### 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

Antidote:	No known specific antidote.
Treatment:	Treat symptomatically.

## 5. Fire-Fighting Measures

### Extinguishing media

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

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water spray, foam, dry powder, carbon dioxide

### Special hazards arising from the substance or mixture

Hazards during fire-fighting:

carbon monoxide, carbon dioxide, Hydrocarbons, sulfur oxides, nitrogen oxides

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

### 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

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 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:

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

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

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.

Protect from temperatures below: 5 °C

The product can crystallize below the limit temperature.

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.

## **8. Exposure Controls/Personal Protection**

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

### **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) 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.

#### **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

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necessary (e.g. pinhole leaks). Take off immediately all 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:	uncharacteristic, mild, sweetish	
Odour threshold:	not applicable,	odour not perceivable
Colour:	red to brown	
pH value:	approx. 5 - 7	( 0.2 %(m), 20 °C) (as aqueous solution)
Freezing point:	approx. 0 °C	( 1,013.3 hPa) Information applies to the solvent.
Boiling point:	approx. 100 °C	( 1,013.3 hPa) Information applies to the solvent.
Flash point:	> 93 °C	Non-flammable.
Flammability:	not flammable	
Lower explosion limit:		Study does not need to be conducted.
Upper explosion limit:		Study does not need to be conducted.
Autoignition:		not applicable Based on the water content the product does not ignite.
		not determined
Vapour pressure:	approx. 23.3 hPa	( 20 °C) Information applies to the solvent.
Density:	approx. 1.23 g/cm <sup>3</sup>	( 20 °C)
	10.2648 Lb/USg	( 68 °F)
Vapour density:		not applicable
<i>Information on: bentazone</i>		
Partitioning coefficient n-octanol/water (log Pow):	-0.46	( 22 °C)
Partitioning coefficient n-octanol/water (log Pow):	-0.08	( 22 °C)
Partitioning coefficient n-octanol/water (log Pow):	0.77	( 22 °C)
Partitioning coefficient n-octanol/water (log Pow):	-0.55	( 22 °C)
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Thermal decomposition:	carbon monoxide, carbon dioxide, Sulphur dioxide, nitrogen oxide, nitrogen dioxide, 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. 22.3 mPa.s	( 20 °C)
Solubility in water:		fully soluble
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

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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

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

### Incompatible materials

strong acids, strong bases, strong oxidizing agents

### Hazardous decomposition products

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, Sulphur dioxide, nitrogen oxide, nitrogen dioxide, 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: Slightly toxic after single ingestion. Relatively nontoxic after short-term inhalation. Slightly toxic after short-term skin contact.

#### Oral

Type of value: LD50

Species: rat (male/female)

Value: 1,260 mg/kg (OECD Guideline 401)

#### Inhalation

Type of value: LC50

Species: rat

Value: > 7.1 mg/l

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Exposure time: 4 h  
No mortality was observed.

### Dermal

Type of value: LD50  
Species: rat  
Value: > 2,000 mg/kg  
No mortality was observed.

### Irritation / corrosion

Assessment of irritating effects: Corrosive to eyes. May cause slight irritation to the skin.

### Skin

Species: rabbit  
Result: non-irritant

### Eye

Species: rabbit  
Result: Corrosive.

### Sensitization

Assessment of sensitization: Sensitization after skin contact possible.

Guinea pig maximization test

Result: Caused skin sensitization 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. No substance-specific organotoxicity was observed after repeated administration to animals.

### 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. The results of various animal studies gave no indication of a carcinogenic effect.

### 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. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

### Other Information

Misuse can be harmful to health.

## **Symptoms of Exposure**



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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.

## 12. Ecological Information

### Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

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

#### Toxicity to fish

Information on: bentazone

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

Information on: bentazone

EC50 (48 h) > 100 mg/l, *Daphnia magna*  
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#### Aquatic plants

Information on: bentazone

EC50 (72 h) 33.3 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

EC50 (7 d) 25.3 mg/l (growth rate), *Lemna gibba* (OECD guideline 221)  
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#### Chronic toxicity to fish

Information on: bentazone

No observed effect concentration (35 d) > 10 mg/l, *Pimephales promelas*  
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#### Assessment of terrestrial toxicity

Acutely harmful to terrestrial organisms.

#### Other terrestrial non-mammals

Information on: bentazone

LD50 1,140 mg/kg, *Colinus virginianus*

Acutely harmful to terrestrial organisms.  
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### Persistence and degradability

#### Assessment biodegradation and elimination (H2O)

Information on: bentazone

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.

### 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: bentazone*

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

### Additional information

Other ecotoxicological advice:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

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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:

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

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### 15. Regulatory Information

#### Federal Regulations

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

Crop Protection TSCA, US released / exempt

Chemical TSCA, US blocked / not listed

**EPCRA 311/312 (Hazard categories):** Chronic; Fire

#### State regulations

##### **CA Prop. 65:**

There are no listed chemicals in this product.

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

Health : 3 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.

##### **DANGER:**

Corrosive to eyes.

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

MAY CAUSE ALLERGIC SKIN REACTION.

KEEP OUT OF REACH OF CHILDREN.

KEEP OUT OF REACH OF DOMESTIC ANIMALS.

Avoid contact with the skin, eyes and clothing.

### 16. Other Information

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

BASF NA Product Regulations

SDS Prepared on: 2014/09/23

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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