

# Safety data sheet

## TRINITY™

Revision date : 2008/01/06  
Version: 1.4

Page: 1/8  
(30323056/MDS\_CPA\_US/EN)

### 1. Substance/preparation and company identification

Company  
BASF CORPORATION  
100 Campus Drive  
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information  
CHEMTREC: 1-800-424-9300  
BASF HOTLINE: 1-800-832-HELP

Substance number: 000000198150  
Molecular formula: C17 H20 Cl N3 O  
Molecular weight: 317.82 g/mol  
Chemical family: triazole  
Synonyms: triticonazole

### 2. Composition/information on ingredients

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
131983-72-7	19.2 %	Triticonazole
57-55-6	6.5 %	Propylene glycol
	74.3 %	Proprietary ingredients

### 3. Hazard identification

#### Emergency overview

CAUTION: Causes eye irritation.  
HARMFUL IF ABSORBED THROUGH SKIN.  
KEEP OUT OF REACH OF CHILDREN.  
KEEP OUT OF REACH OF DOMESTIC ANIMALS.  
Avoid contact with the skin, eyes and clothing.  
Wash thoroughly after handling.

#### Potential health effects

**See Product Label for additional precautionary statements.**

#### **Primary routes of exposure**

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

#### **Acute toxicity:**

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

#### **Irritation:**

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

# Safety data sheet

## TRINITY™

Revision date : 2008/01/06

Version: 1.4

Page: 2/8

(30323056/MDS\_CPA\_US/EN)

### **Sensitization:**

Skin sensitizing effects were not observed in animal studies.

### **Medical conditions aggravated by overexposure:**

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

### **Potential environmental effects**

#### **Aquatic toxicity:**

Acutely toxic for fish.

Acutely toxic for aquatic invertebrates.

Acutely toxic for aquatic plants.

The ecological data given are those of the active ingredient.

#### **Terrestrial toxicity:**

Acutely toxic to terrestrial organisms.

Acutely very toxic to honeybees.

The ecological data given are those of the active ingredient.

---

## 4. First-aid measures

### **General advice:**

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

### **If inhaled:**

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

### **If on skin:**

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.

### **Note to physician**

Antidote:

No known specific antidote.

Treatment:

Treat symptomatically.

---

## 5. Fire-fighting measures

Flash point:

> 208 °F

(ASTM D93) No flash point - Measurement made up to the boiling point.

### **Suitable extinguishing media:**

foam, dry extinguishing media, carbon dioxide, water spray

### **Hazards during fire-fighting:**

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

If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released in case of fire.

# Safety data sheet

TRINITY™

Revision date : 2008/01/06

Version: 1.4

Page: 3/8

(30323056/MDS\_CPA\_US/EN)

**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.

---

## 6. Accidental release measures

**Personal precautions:**

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

**Environmental precautions:**

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

**Cleanup:**

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

---

## 7. Handling and storage

**Handling**

**General advice:**

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 national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

**Storage**

**General advice:**

Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

**Storage incompatibility:**

# Safety data sheet

TRINITY™

Revision date : 2008/01/06

Version: 1.4

Page: 4/8

(30323056/MDS\_CPA\_US/EN)

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

## Temperature tolerance

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 and 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 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:	odourless	
Colour:	white	
Vapour pressure:		Unspecified
Density:	1.058 g/cm <sup>3</sup> 8.802 lb/USg	

# Safety data sheet

## TRINITY™

Revision date : 2008/01/06  
Version: 1.4

Page: 5/8  
(30323056/MDS\_CPA\_US/EN)

Partitioning coefficient n-octanol/water (log Pow):		Not applicable
Viscosity, dynamic:	0.475 Pa.s	
Solubility in water:		dispersible

## 10. Stability and reactivity

### 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.

### Substances to avoid:

strong oxidizing agents

### Hazardous reactions:

The product is chemically stable.

Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

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

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

### Corrosion to metals:

Corrosive effects to metal are not anticipated.

## 11. Toxicological information

### Acute toxicity

#### Oral:

LD50/rat: > 5,000 mg/kg  
No mortality was observed.

#### Dermal:

LD50/rabbit: > 2,000 mg/kg  
No mortality was observed.

#### Skin irritation:

rabbit: Slightly irritating.

#### Eye irritation :

rabbit:

rabbit: moderately irritating

#### Sensitization:

guinea pig: Skin sensitizing effects were not observed in animal studies.

#### Genetic toxicity:

# Safety data sheet

## TRINITY™

Revision date : 2008/01/06

Version: 1.4

Page: 6/8

(30323056/MDS\_CPA\_US/EN)

*Information on: Triticonazole*

*No mutagenic effect was found in various tests with microorganisms and mammalian cell culture.*

### **Carcinogenicity:**

*Information on: Triticonazole*

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

### **Reproductive toxicity:**

*Information on: Triticonazole*

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

### **Developmental toxicity/teratogenicity:**

*Information on: Triticonazole*

*In animal studies the substance showed a developmental toxic effect in high doses which were maternally toxic.*

---

## 12. Ecological information

*Information on: Triticonazole*

*Evaluation: Not readily biodegradable (by OECD criteria).*

*Information on: Triticonazole*

*Bioconcentration factor 72.55*

### **Environmental toxicity**

*Information on: Triticonazole*

*Acute and prolonged toxicity to fish:*

*Rainbow trout/LC50 (96 h): > 3.6 mg/l*

*Information on: Triticonazole*

*Acute toxicity to aquatic invertebrates:*

*Daphnia magna/EC50 (48 h): 9.0 mg/l*

*Information on: Triticonazole*

*Toxicity to aquatic plants:*

*green algae/EC50 (96 h): > 1 mg/l*

*Information on: Triticonazole*

*Other terrestrial non-mammals:*

*bobwhite quail/LD50: > 1,900 mg/kg*

*mallard duck/LD50: > 1,900 mg/kg*

*bobwhite quail/LC50: > 5,000 ppm*

*Honey bee: 1.87 ug/bee*

### **Other ecotoxicological advice:**

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

# Safety data sheet

TRINITY™

Revision date : 2008/01/06

Version: 1.4

Page: 7/8

(30323056/MDS\_CPA\_US/EN)

---

## 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.

---

## 14. Transport information

Reference Bill of Lading

---

## 15. Regulatory information

### Federal Regulations

#### Registration status:

TSCA, US released / exempt

**OSHA hazard category:** Skin and/or eye irritant

**SARA hazard categories (EPCRA 311/312):** Acute

### State regulations

#### State RTK

<u>CAS Number</u>	<u>Chemical name</u>	<u>State RTK</u>
57-55-6	Propylene glycol	PA

#### CA Prop. 65:

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

---

## 16. Other information

**Refer to product label for EPA registration number.**

Recommended use: fungicide

---

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE,

# Safety data sheet

**TRINITY™**

Revision date : 2008/01/06

Page: 8/8

Version: 1.4

(30323056/MDS\_CPA\_US/EN)

WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

END OF DATA SHEET