

Safety Data Sheet

TRINITY FUNGICIDE

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Version: 3.0

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1. Identification

Product identifier used on the label

TRINITY FUNGICIDE

Recommended use of the chemical and restriction on use

Recommended use*: fungicide

* 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: 198150
EPA Register number: 7969-257
Molecular formula: C₁₇ H₂₀ Cl N₃ O
Chemical family: triazole
Synonyms: triticonazole

2. Hazards Identification

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

Classification of the product

| | | |
|-----------------|---|------------------------------------------------|
| Aquatic Acute | 3 | Hazardous to the aquatic environment - acute |
| Aquatic Chronic | 2 | Hazardous to the aquatic environment - chronic |

Label elements

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The product does not require a hazard warning label in accordance with GHS criteria.

Hazards not otherwise classified

Labeling of special preparations (GHS):

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 2 % dermal

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 1 % oral

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 10 % Inhalation - vapour

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 10 % Inhalation - mist

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

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.

3. Composition / Information on Ingredients

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

| <u>CAS Number</u> | <u>Content (W/W)</u> | <u>Chemical name</u> |
|-------------------|----------------------|------------------------------|
| 131983-72-7 | 19.2 % | Triticonazole |
| 2634-33-5 | < 0.1 % | 1,2-benzisothiazol-3(2H)-one |

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> |
|-------------------|----------------------|-------------------------|
| 131983-72-7 | 19.2 % | Triticonazole |
| 57-55-6 | 6.5 % | Propylene glycol |
| | 74.3 % | Proprietary ingredients |

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air.

If on skin:

Wash thoroughly with soap and water.

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If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:

Rinse mouth and then drink plenty of water.

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.

Treatment: Symptomatic treatment (decontamination, vital functions).

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, 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.

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.

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

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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

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 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: 0 °C

Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.

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.

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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: | suspension | |
| Odour: | odourless | |
| Odour threshold: | | not applicable, odour not perceivable |
| Colour: | white opaque | |
| 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: | > 208 °F | (ASTM D93) No flash point - Measurement made up to the boiling point. |
| 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. |

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| | | |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. 23.3 hPa | (20 °C) Information applies to the solvent. |
| Density: | 1.058 g/cm3 8.802 lb/USg | |
| Vapour density: | | not applicable |
| Partitioning coefficient n-octanol/water (log Pow): | | not applicable |
| Self-ignition temperature: | | not self-igniting |
| Thermal decomposition: | 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. |
| Viscosity, dynamic: | 475 mPa.s | (23 °C) |
| Solubility in water: | | dispersible |
| Molar mass: | 317.82 g/mol | |
| 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.

Corrosion to metals:

Corrosive effects to metal are not anticipated.

Oxidizing properties:

Not an oxidizer.

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 oxidizing agents, strong bases, strong acids

Hazardous decomposition products

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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.

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

Species: rat

Value: > 5,000 mg/kg

No mortality was observed.

Inhalation

Type of value: LC50

Species: rat

Value: > 2.0 mg/l

Exposure time: 4 h

No mortality was observed.

Dermal

Type of value: LD50

Species: rabbit

Value: > 2,000 mg/kg

No mortality was observed.

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: Slightly irritating.

Eye

Species: rabbit

Result: Slightly irritating.

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Species: rabbit
Result: moderately irritating

Sensitization

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

modified Buehler test

Species: guinea pig

Result: Skin sensitizing effects were not observed in animal studies.

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: Mutagenicity tests revealed no genotoxic potential. The product has not been tested. The statement has been derived from the properties of the individual components.

Carcinogenicity

Assessment of carcinogenicity: The results of various animal studies gave no indication of a carcinogenic effect. The product has not been tested. The statement has been derived from the properties of the individual components.

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from the properties of the individual components.

Teratogenicity

Assessment of teratogenicity: Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals. The product has not been tested. The statement has been derived from the properties of the individual components.

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.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Acutely toxic for fish. Acutely toxic for aquatic invertebrates. Acutely toxic for aquatic plants.

Toxicity to fish

Information on: Triticonazole

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LC50 (96 h) > 3.6 mg/l, Oncorhynchus mykiss
No observed effect concentration (28 d) 0.01 mg/l, Oncorhynchus mykiss

Aquatic invertebrates

Information on: Triticonazole
No observed effect concentration (28 d) 0.041 mg/l, Mysidopsis bahia
EC50 (96 h) 1.7 mg/l, Mysidopsis bahia

Aquatic plants

Information on: Triticonazole
EC50 (120 h) 0.31 mg/l, Skeletonema costatum
No observed effect concentration (120 h) 0.031 mg/l, Skeletonema costatum
EC50 (96 h) 1 mg/l, Selenastrum capricornutum

Assessment of terrestrial toxicity

Acutely toxic to terrestrial organisms. The ecological data given are those of the active ingredient.

Other terrestrial non-mammals

Information on: Triticonazole
LD50 > 1,900 mg/kg, Colinus virginianus
LD50 > 1,900 mg/kg, Anas platyrhynchos
LC50, Colinus virginianus
LD50 > 24 ug/bee, Apis mellifera

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Information on: Triticonazole

Not readily biodegradable (by OECD criteria).

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: Triticonazole

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.

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

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;

State regulations

State RTK

PA

CAS Number

57-55-6

Chemical name

Propylene glycol

CA Prop. 65:

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

NFPA Hazard codes:

Health : 2 Fire: 1 Reactivity: 0 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:

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.

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2014/12/26

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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