1. Identification

Product identifier used on the label

**Tinuvin® 329 FF**

Recommended use of the chemical and restriction on use

Recommended use*: stabilizer

* 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 Mexicana S.A. de C.V.
Av. Insurgentes Sur 975
Col. CD. De Los Deportes, C.P. 03710,
MEXICO

Telephone: +52 55 5325 2600

Emergency telephone number

Tel.: +1-800-849-5204 or +1-833-229-1000
CHEMTREC Int.: +1-703-527-3887

Other means of identification

Synonyms: Benzotriazole derivative

2. Hazards Identification


Classification of the product

- Combustible Dust
- Combustible Dust (1)
- Combustible Dust

Label elements

Signal Word:
Warning

Hazard Statement:
May form combustible dust concentration in air.

Hazards not otherwise classified
The product is under certain conditions capable of dust explosion.

Labeling of special preparations (GHS):
This product is not combustible in the form in which it is shipped by the manufacturer, but may form a combustible dust through downstream activities (e.g. grinding, pulverizing) that reduce its particle size.

3. Composition / Information on Ingredients


This product does not contain any components classified as hazardous under the referenced regulation.

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
If difficulties occur after dust has been inhaled, remove to fresh air and seek medical attention.

If on skin:
Wash thoroughly with soap and water.
If irritation develops, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.
If irritation develops, seek medical attention.

If swallowed:
Rinse mouth and then drink plenty of water. Do not induce vomiting. Immediate medical attention required.

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.
5. Fire-Fighting Measures

Extinguishing media

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

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture
Hazards during fire-fighting:
harmful vapours
Evolution of fumes/fog. 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:
Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

Impact Sensitivity:
Impact Weight: 10 kg
Height of Fall: 0.4 m
Method: Explosive properties
Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Further accidental release measures:
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Use personal protective clothing.

Environmental precautions
Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
Nonsparking tools should be used.

7. Handling and Storage

Precautions for safe handling
Breathing must be protected when large quantities are decanted without local exhaust ventilation.
Closed containers should only be opened in well-ventilated areas. Avoid dust formation. Do not use any sparking tools.

Protection against fire and explosion:
Avoid dust formation. Take precautionary measures against static discharges.

Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Dust explosion class: Dust explosion class 1 (Kst-value >0 up to 200 bar m s\(^{-1}\)).

**Conditions for safe storage, including any incompatibilities**
No applicable information available.

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

### 8. Exposure Controls/Personal Protection

**Advice on system design:**
It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

**Personal protective equipment**

**Respiratory protection:**
Respiratory protection may not be required under normal operating conditions if adequate ventilation is provided.

**Hand protection:**
Wear chemical resistant protective gloves.

**Eye protection:**
Safety glasses with side-shields.

**Body protection:**
Body protection must be chosen based on level of activity and exposure.

**General safety and hygiene measures:**
Wear protective clothing as necessary to minimize contact. Handle in accordance with good industrial hygiene and safety practice. Handle in accordance with good industrial hygiene and safety practice.

### 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>granules</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
</tbody>
</table>
Odour threshold: No data available.
Colour: slightly yellow
pH value: 5.6
(1 % (m), 20 - 25 °C)
(as aqueous solution)
Melting point: 103 - 105 °C
Boiling point: not applicable
Sublimation point: No data available.
Flash point: 220 °C
Flammability: not highly flammable
Lower explosion limit: For solids not relevant for classification and labelling.
Upper explosion limit: For solids not relevant for classification and labelling.
Autoignition: 420 °C
Vapour pressure: 0.3 Pa
(105 °C)
0.00001 Pa
(25 °C)
Density: 1.18 g/cm3
(20 °C)
Bulk density: 320 kg/m3
Partitioning coefficient n-octanol/water (log Pow): > 6
Self-ignition temperature: not self-igniting
Thermal decomposition: > 350 °C (VDI 2263, sheet 1, 1.4.1)
> 500 °C (dynamic (Lütolf oven))
Viscosity, dynamic: not determined
Particle size: 140 µm
% volatiles: 0.2 %
Solubility in water: < 1 mg/l
(20 °C)
Solubility (quantitative): No data available.
Solubility (qualitative): No data available.
Evaporation rate: The product is a non-volatile solid.
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 fire-propagating

Dust explosivity characteristics:
Kst: 162 m.bar/s
Revaluation 2015
### Dust explosion class

Dust explosion class 1 (Kst-value >0 up to 200 bar m s⁻¹) (St 1)

### Formation of flammable gases

Remarks: Forms no flammable gases in the presence of water.

### Chemical stability

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

### Possibility of hazardous reactions

In spite of the dedusting carried out for reasons of industrial health the product resp. the fine dust of the product is capable of dust explosion.

### Conditions to avoid

Avoid dust formation. Avoid deposition of dust. Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static charge.

### 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:

- > 350 °C (VDI 2263, sheet 1, 1.4.1)
- > 500 °C (dynamic (Lütolf oven))
  
  (Isoperibolic (Lütolf oven))

### 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: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

**Oral**

- Type of value: LD50
- Species: rat
- Value: > 10,000 mg/kg

**Inhalation**

No data available.

**Dermal**
Type of value: LD50
Species: rabbit
Value: > 5,000 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.

Irritation / corrosion
Assessment of irritating effects: Not irritating to eyes and skin.

Skin
Species: rabbit
Result: non-irritant
Method: Draize test

Eye
Species: rabbit
Result: non-irritant
Method: Draize test

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

Species: guinea pig
Result: Non-sensitizing.
Method: OECD Guideline 406

Aspiration Hazard
not applicable

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: Repeated oral uptake of the substance did not cause substance-related effects.
Experimental/calculated data: rat (Wistar) (male/female) oral feed 30 d 0, 1.25, 2.5, and 5 %
NOAEL: 5,658 mg/kg

Genetic toxicity
Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture.
Genetic toxicity in vitro: OECD Guideline 471 Ames-test negative
Ames-test S. typhimurium, E. coli:with and without metabolic activation negative

Carcinogenicity
Assessment of carcinogenicity: No data available.

Reproductive toxicity
Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. The results were determined in a Screening test (OECD 421/422). The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Teratogenicity
Assessment of teratogenicity: No data available.
12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish
LC50 (96 h) > 100 mg/l, Brachydanio rerio (OECD Guideline 203, static)
The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. No toxic effects occur within the range of solubility.

Aquatic invertebrates
EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The product has low solubility in the test medium. A saturated solution has been tested. Limit concentration test only (LIMIT test). No toxic effects occur within the range of solubility. Nominal concentration.

EC50 (24 h) 15 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. No toxic effects occur within the range of solubility.

Aquatic plants
EC50 (72 h) > 100 mg/l (biomass), Scenedesmus subspicatus (Directive 88/302/EEC, part C, p. 89, static)
The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. No toxic effects occur within the range of solubility.

Assessment of terrestrial toxicity
No toxic effects have been observed in studies with soil living organisms.

Soil living organisms

Toxicity to soil dwelling organisms:
No observed effect concentration (56 d) > 1,000 mg/kg, Eisenia fetida (OECD Guideline 222, artificial soil)
No effects at the highest test concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Toxicity to terrestrial plants

No data available.
Other terrestrial non-mammals
No data available.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
OECD Guideline 209 aerobic activated sludge/EC20 (3 h): > 100 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H2O)
The product is virtually insoluble in water and can thus be separated from water mechanically in suitable effluent treatment plants.

Elimination information

1 % CO2 formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge)

Assessment of stability in water
No data available. Study scientifically not justified. Study technically not feasible.

Information on Stability in Water (Hydrolysis)
Study scientifically not justified. Study technically not feasible.

Bioaccumulative potential

Assessment bioaccumulation potential
Accumulation in organisms is expected.

Mobility in soil

Assessment transport between environmental compartments
Adsorption to solid soil phase is expected.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:
Do not discharge into drains/surface waters/groundwater. Dispose of in accordance with national, state and local regulations.

Container disposal:
Dispose of in accordance with national, state and local regulations. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information
15. Regulatory Information

Federal Regulations
Not applicable

NFPA Hazard codes:
Health: 1   Fire: 2   Reactivity: 0   Special:

HMIS III rating
Health: 1   Flammability: 2   Physical hazard: 0

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2015/11/13

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