

1. Identification

Product identifier:

Trade name: CHIGUARD[®] 328
 Substance name: 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol
 CAS No.: 25973-55-1

Other means of identification:

Not available

Recommended use of the chemical and restrictions on use

Recommended use of the substance or mixture: UV absorber
 Restrictions on use: There are no known uses of this chemical that are specifically advised against.

Manufacturer/supplier:

Chitec Technology Co., Ltd.
 Address: 20F., No.57, Sec. 2, Dunhua S. Rd., Taipei City, 106, Taiwan, R.O.C.
 Tel: +886-2-2700-6678
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Emergency telephone number:

+886-2-2700-6678

2. Hazard(s) Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200/GHS:

Specific target organ toxicity – repeated: STOT Rep. Exp. 2
 Hazardous to the aquatic environment Aquatic Chronic 4

Label elements in accordance with paragraph (d) of §1910.1200/GHS:

GHS pictogram(s):



Signal word:

Warning

Hazard statement(s):

May cause damage to organs through prolonged or repeated exposure.
 May cause long lasting harmful effects to aquatic life.

Precautionary statement(s):

Do not breathe dust/fume/gas/mist/vapors/spray.
 Avoid release to the environment.
 Get medical advice/attention if you feel unwell.
 Dispose of contents/ container in accordance with local/ regional/ national/ international regulations.

Any hazards not otherwise classified that have been identified during the classification process:

N/A

3. Composition/information on ingredients

Chemical name: 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol

CAS number: 25973-55-1

EC number: 247-384-8

Purity % (w/w): 99% min.

Impurities contribute to the classification of the substance: N/A

4. First-aid measures

In case of inhalation:

Remove to fresh air and summon medical help if respiratory irritation develops or if breathing becomes difficult.

In case of skin contact:

Wipe away excess material with dry towel and then wash affected areas with plenty of water for several minutes. Get medical attention immediately if irritation occurs.

In case of eye contact:

Immediately wash affected eyes for several minutes under running water with eyelids held open. Get medical attention immediately if irritation occurs.

In case of ingestion:

Wash out mouth with water and then drink plenty of water, and summon physician. Do not give anything by mouth to an unconscious or convulsing person.

Most important symptoms/effects, acute and delayed:

To the best of our knowledge, the physical, chemical, and toxicological properties have not been thoroughly investigated.

Indication of immediate medical attention and special treatment needed:

No specific information.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media: Carbon dioxide, foam, dry chemical, water spray.

Unsuitable extinguishing media: Not known according to previous experience.

Specific hazards arising from the chemical:

Thermal decomposition and burning will produce toxic fume, carbon monoxide, carbon dioxide and nitrogen oxides.

Avoid whirling up the material because of the potential risk of dust explosion.

Special protective equipment and precautions for firefighters:

Wear full protective clothing. Wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures:

No action shall be taken involving any personal risk or without suitable training. Remove all sources of ignition. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Avoid dust formation. Avoid inhalation of vapors/dust. Avoid contact with eyes, skin and clothing. Put on appropriate personal protective equipment.

Methods and materials for containment and cleaning up:

Remove unnecessary people. Avoid raising dust for powder substance as released material may pose a dust explosion hazard if it becomes airborne in the presence of an ignition source. Pick up with inert absorbent material (e.g. sand, earth etc.). Place into approved waste containers. Wear suitable protective equipment. Should not be released into the environment. Collect the spilled product into suitable containers which must be tightly sealed and properly labeled. Contain contaminated

water/firefighting water. Do not discharge into drains/surface waters/groundwater.

7. Handling and storage

Precautions for safe handling:

In accordance with good industrial practice, handle with care and avoid unnecessary personal contact. Keep away from ignition sources. Avoid contact with eyes and prolonged or repeated skin contact. Avoid continuous or repetitive breathing of dust.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. Closed containers should only be opened in well-ventilated areas

Personal hygiene:

Wear appropriate personal protective equipment. As a general rule, not to eat, drink and smoke in work areas; to wash hands thoroughly after handling and; to remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed when not in use and during transport. Store in a cool place. Store in the original container securely closed in a dry and well-ventilated place. Prevent contamination with foreign materials. Keep ignition sources away - Do not smoke. Store containers and drums upright; do not drag or slide; and move in a carefully supervised manner with a suitable hand truck.

Condition and materials to avoid:

Direct sunlight, excessive light, moisture, oxidizing conditions, excessively high temperatures, sparks and open flame, dusting conditions.

8. Exposure controls / personal protection

OSHA permissible exposure limit (PEL):

There are no currently occupational exposure limit values established for this substance.

ACGIH Threshold Limit Value (TLV):

There are no currently threshold limit values established for this substance.

Other exposure limit recommended:

Not available.

Appropriate engineering controls:

Normal ventilation for standard manufacturing procedures is generally adequate.

Local exhaust should be used when large amounts are released.

Mechanical ventilation should be used in low or enclosed places.

Individual protection measures:

Eye and face protection: Safety goggle is recommended.

Skin protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hand protection: For prolonged or repeated contact use protective gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
 Respiratory protection: Suitable dust mask is recommended where dust arises from use. Use NIOSH-certified (or equivalent) respirators.

Body protection: Protective work clothing, closed footwear.

9. Physical and chemical properties

Appearance	: Off-white to pale yellow crystalline powder
Odor	: Faint
Odor threshold	: No data available
pH	: No data available
Melting point/freezing point	: 79 - 84 °C
Boiling point/ boiling range	: decomposes at >180 °C before boiling
Flash point	: 228 °C
Evaporation rate	: No data available
Flammability	: No data available
Upper/lower flammability or explosive limits	: No data available
Vapor pressure	: 3.6×10^{-8} mmHg @ 20 °C
Vapor density	: No data available
Specific gravity	: 1.17 @ 25 °C
Solubility in water	: nil
Partition coefficient - n-octanol/water	: Log Pow = 7.3
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Minimum Ignition Energy:	: 2~7 mJ

10. Stability and reactivity

Reactivity:	No specific information
Chemical stability:	Stable under ordinary conditions of use and storage. Heat will contribute to instability.
Possibility of hazardous reactions:	No specific information
Conditions to avoid:	Avoid heat, flames, sparks and other sources of ignition. Avoid electro-static discharges. Avoid contact with incompatible materials.
Incompatible materials:	Strong acid, strong base and strong oxidizing agents.
Hazardous decomposition products:	Thermal decomposition and burning will produce toxic fume, carbon monoxide, carbon dioxide and nitrogen oxides.

11. Toxicological information

Information on the likely routes of exposure:

Primary routes of exposure: Inhalation: eye contact; skin contact/absorption.
 Relatively unlikely route of exposure: ingestion.

Symptoms related to the physical, chemical and toxicological characteristics:

To the best of our knowledge, the physical, chemical, and toxicological properties have not been thoroughly investigated.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure:	Potential immediate effects: No information available. Potential delayed effects: No information available.
Long term exposure:	Potential immediate effects: No information available. Potential delayed effects: No information available.
Potential chronic health effects:	No information available.

Numerical measures of toxicity

Acute toxicity:

Acute Oral toxicity:	LD ₅₀ > 7750 mg/kg bw (rat);
Acute Inhalation toxicity:	LC ₅₀ > 0.4 mg/L/4h air (rat);
Acute Dermal toxicity:	LD ₅₀ > 1100 mg/kg bw (rabbit)

Skin corrosion/irritation:

Skin irritation (rabbit): Not-irritating.

Serious eye damage/irritation:

Eye Irritation (rabbit): Not-irritating.

Respiratory or skin sensitization:

Skin sensitization (Guinea Pigs): Not-sensitizing.

CMR effects (Carcinogenicity, Mutagenicity and Toxicity for Reproduction):

Carcinogenicity: No data available.

Mutagenicity: No data available.

Toxicity for Reproduction: No data available.

STOT-single exposure and repeated exposure:

May be harmful by inhalation, ingestion, or skin absorption.

Material may be irritating to mucous membranes and upper respiratory tract.

Registry of Toxic Effects of Chemical Substances (RTECS): Listed.

12. Ecological information

Ecotoxicity:

Short-term toxicity to fish: LC₅₀ > 100 mg/L/24h
Short-term toxicity to aquatic invertebrates: EC₅₀ > 10 mg/L/24h
Toxicity to aquatic algae and cyanobacteria: EC₅₀ > 10 mg/L/72h
Toxicity to microorganisms: IC₅₀ > 100 mg/L/3h

Persistence and degradability:

Biodegradability: 2- 8% in 28 days.
Result: Not readily biodegradable.

Bioaccumulative potential:

Log Pow = 7.3
The substance is expected to have low bioaccumulation potential.(EPA)

Mobility in the soil:

No information available

Other adverse effects:

No information available

13. Disposal considerations

Waste from residues/unused products:

Residual chemical should be disposed by incineration or by other modes or disposal in compliance with local/regional/national/international regulations.

Waste treatment methods:

The generation of waste should be avoided or minimized wherever possible. Disposal of this substance or product containing this chemical, solutions and any by-products must be dumped or incinerated in accordance with local/regional/national/international regulations.

Contaminated packaging:

Contaminated packaging material should be treated equivalent to residual chemical. Clean packaging material should be subjected to waste management schemes (recovery recycling, reuse) according to local/regional/national/international regulations.

Hazardous waste: No information available

Recommendation: No information available

14. Transport information

UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class:	This product is not regulated as a hazardous material or dangerous goods for transportation.
Packing group:	Not applicable
Marine pollutant (Yes/No):	No
Transportation in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Product is not supplied in bulk.
Special precautions for user:	See Section 7 - Conditions for safe storage, including any incompatibilities.

15. Regulatory information

Chiguard® 328 is listed on the following inventories:

Australia: AICS	Canada: DSL	China: IECSC	Europe: EINECS
Japan: ENCS	Korea: ECL	Philippines: PICCS	USA: TSCA
New Zealand: NZIoC	Taiwan: CSNN		

FDA: 21 CFR 175.105

RCRA status: Not a hazardous waste under RCRA (40 CFR 261).

CERCLA status: Not listed.

SARA/TITLE III - TOXIC CHEMICALS LIST: This product does not contain a toxic chemical for routine annual toxic chemical release reporting under sec. 313 (40 CFR 372).

16. Other information

Last Revision Date: See bottom of each page under 'Revised Date'

Shelf life: 2 years minimum in sealed containers protected from light and air.



SAFETY DATA SHEET
CHIGUARD® 328
www.chitec.com

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.