

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: SUNOVIN 5521

Company name: SUNSHOW SPECIALITY CHEMICAL CO., LTD

Address: SUITE A 12/F RITZ PLAZA 122 AUSTIN RD TST KL, HONGKONG

Information Telephone Number: 86-755-82823506 **Fax:** 86-755-82823507

Synonyms: 2-(3',5'-di-tert-butyl-2'-hydroxyphenyl)-5-chloro-benzotriazole; 5-Chloro-2-(2-hydroxy-3,5-di-tert-butylphenyl)-2H-benzotriazole; 2,4-Di-tert-butyl-6-(5-chloro-2H-benzotriazol-2-yl)phenol

Product Use: UV absorber

Chemical Name: Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)-

Chemical Family: Substituted benzotriazole

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME: 2-(3',5'-di-tert-butyl-2'-hydroxyphenyl)-5-chlorobenzotriazole

CAS No.: 3864-99-1

3. HAZARDS IDENTIFICATION

Emergency Overview: Pale yellow powder or white to off-white pellets

No odor

Dusts can form an explosive mixture with air.

Relevant Routes of Exposure: Inhalation and ingestion.

Signs and Symptoms of Overexposure: No known signs and symptoms of exposure.

Medical Conditions Generally Aggravated By Exposure: None reported

Potential Health Effects: See Section XI for additional information.

Eyes: Not expected to be a hazard in normal industrial use.

As with any dust, mechanical irritation is possible to the eye.

Skin: Not expected to be a hazard in normal industrial use.

As with any dust, mechanical irritation is possible to the skin.

Ingestion: Not expected to be a hazard in normal industrial use.

Inhalation: As with any dust, mechanical irritation is possible to mucous membranes and the respiratory tract.

Chronic Health Effects: Long term oral overexposure may cause liver and kidney effects.

Carcinogenicity:

NTP: No **ACGIH:** No

IARC: No **OTHER:** No

OSHA: No

4. FIRST AID MEASURES

Eyes: Flush with large volumes of water for at least 15 minutes. Get medical attention.

Skin: Wash with large volumes of soap and water for at least 15 minutes. If irritation develops, get medical attention.

Ingestion: If conscious, give person 1 to 2 glasses of water. Get medical attention immediately.

Inhalation: Remove person to fresh air. Get medical attention.

Antidotes: No information available

Notes to Physicians and/or Protection for First-Aiders: No information available

5. FIRE FIGHTING MEASURES

Flammable Limits in Air (% by Volume): Not available

Flash Point: 234 degrees C (Open Cup)

Autoignition Temperature: 430 degrees C (Ignition temperature)

Extinguishing Media: All conventional media are suitable.

Fire Fighting Instructions: Wear a self-contained breathing apparatus and protective clothing to prevent skin and eye contact in fire situations.

Unusual Fire and Explosion Hazards: Under fire conditions, toxic and irritating fumes may be emitted. Dusts can form an explosive mixture with air.

Flammability Classification: Combustible dust

Known or Anticipated Hazardous Products of Combustion:

Oxides of nitrogen

Hydrogen chloride and/or chlorine

Carbon monoxide and carbon dioxide

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Shut off all sources of ignition. Wearing appropriate personal protective equipment, carefully sweep up material and place in suitable labeled containers for disposal. Avoid creating a dusting condition. Use only non-sparking tools.

Personal Precautions: See Section 8.

Environmental Precautions: Avoid releasing to the environment.

7. HANDLING AND STORAGE

Handling: Use appropriate personal protection equipment.

Avoid eye, skin and clothing contact.

Avoid breathing dust.

Avoid repeated and prolonged contact.

Avoid creating a dusting situation.

Keep away from heat, sparks and flame.

Prevent buildup of static electricity.

All equipment should be properly grounded.

Storage: Store in a cool, dry, well-ventilated area away from incompatible materials. Store away from heat, sparks, and flame. Keep container tightly closed.

Other Precautions: Avoid contact of material with open flames.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: No information available

Ventilation Requirements: Use local exhaust to minimize dusting.

Use mechanical ventilation for general area control.

Personal Protective Equipment:

Eye/Face Protection: Chemical safety glasses with side shields or chemical safety goggles

Skin Protection: Rubber or PVC gloves

Clothing designed to minimize skin contact

Respiratory Protection: Wear a NIOSH/MSHA approved dust respirator if dusting occurs, or there is potential for airborne exposures to exceed established threshold values. Consult the OSHA respiratory protection information located at 29CFR 1910.134 and the American National Standard Institute's Practices of Respiratory Protection Z88.2.

Other Protective

Clothing or Equipment: No information available

Exposure Guidelines: See Section II.

Work Hygienic Practices: Wash thoroughly after handling. Wash contaminated clothing before reuse.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance: Pale yellow powder or white to off-white pellets

Percent Volatile: Not available

Boiling Point: Not available

pH Value: Not available

Bulk Density: Not available
pH Concentration: Not available
Color: Pale yellow, white, offwhite
Physical State: Solid
Decomposition Temperature: >350 degrees C
Reactivity in Water: Not water reactive
Evaporation Rate: Not available
Saturated Vapor Concentration: Not available
Freezing Point: Not available
Softening Point: Not available
Heat Value: Not available
Solubility in Water: Insoluble
Melting Point: 154-158 degrees C
Specific Gravity or Density (Water=1): 1.26 at 20 degrees C
Molecular/Chemical Formula: C₂₀H₂₄CIN₃O
Vapor Density: Not available
Molecular Weight: 357.5
Vapor Pressure: 1.1E-6 Pa
Octanol/Water Partition Coefficient: Log Pow >6
Viscosity: Not available
Odor: No odor
Volatile Organic Compounds: Not available
Odor Threshold: Not available
Water/Oil Distribution Coefficient: Not available
Particle Size: Not available
Weight Per Gallon: Not available

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of handling and use.

Conditions to Avoid: None

Incompatibility With Other Materials:

Strong oxidizers

Strong acids

Strong bases

Hazardous Decomposition Products:

Thermal decomposition may produce the following:

Oxides of nitrogen

Hydrogen chloride and/or chlorine

Carbon monoxide and carbon dioxide

Hazardous Polymerization: Will not occur

Conditions to Avoid: None

11. TOXICOLOGICAL INFORMATION

VALUE (LD50 OR LC50) ANIMAL ROUTES COMPONENTS

>0.75 mg/L/4H Rat Acute Inhalation 2-(3',5'-di-tert-butyl-2'-hydroxyphenyl)-5-chlorobenzotriazole

>5,000 mg/kg Rat Acute Oral 2-(3',5'-di-tert-butyl-2'-hydroxyphenyl)-5-chlorobenzotriazole

Toxicological Information:

The toxicological properties of this material have not been fully determined.

This material has been determined not to be a primary eye irritant in rabbits.

This material has been determined not to be a primary skin irritant in rabbits.

This material did not cause sensitization in a guinea pig maximization study.

Long term oral overexposure may cause liver and kidney effects.

Other acute and chronic health hazards, as well as target organs, are unknown.

As with all dusts, inhalation of air concentration levels above the PNOR may cause irritation and adverse lung effects.

12. ECOLOGICAL INFORMATION

Ecological Information: LC50 in Zebra fish (*Brachydanio rerio*) (96H) >100 mg/L

EC50 in *Daphnia magna* (24H) = 16 mg/L

IC50 in sewage sludge (bacteria) (3H) >100 mg/L

EC50 in algae (*Scenedesmus* sp.) (72H) = 56 mg/L

Not biodegradable

Avoid releasing to the environment.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations:

Dispose of waste at an approved chemical disposal facility in compliance with all current Local regulations.

14. TRANSPORT INFORMATION

U.S. DOT

Proper Shipping Name: Not regulated

Hazard Class: N/A

ID Number: N/A

Packing Group: N/A

Labels: N/A

Special Provisions: N/A

Packaging Exceptions: N/A

Non-Bulk Packaging: N/A

Bulk Packaging: N/A

Passenger Air/Rail Limit: N/A

Air Cargo Limit: N/A

Vessel Stowage: N/A

Other Stowage: N/A

Reportable Quantity: N/A

AIR - ICAO OR IATA

Proper Shipping Name: Not regulated

Hazard Class: N/A

ID Number: N/A

Subsidiary Risk: N/A

Packing Group: N/A

Hazard Labels: N/A

Packing Instructions: N/A

Air Passenger Limit Per Package: N/A

Packing Instruction -Cargo: N/A

Air Cargo Limit Per Package: N/A

Special Provisions Code: N/A

WATER – IMDG Proper Shipping Name: Not regulated

Hazard Class: N/A

ID Number: N/A

Packing Group: N/A

Subsidiary Risk: N/A

Medical First Aid Guide Code: N/A

15. REGULATORY INFORMATION

U.S. Federal Regulations:

The components of this product are either on the TSCA Inventory or exempt (i.e. impurities, a polymer complying with the exemption rule at 40 CFR 723.250) from the Inventory.

State Regulations: None known

International Regulations:

This material (or each component) is listed on the following inventories:

Canada - DSL

EU - EINECS

Australia - AICS

Japan - ENCS

Korea - ECL

Philippines - PICCS

China - List I

Canadian WHMIS Hazard Class and Division = Not controlled

SARA Hazards:

Acute: No

Chronic: Yes

Reactive: No

Fire: No

Pressure: No

16. OTHER INFORMATION

NFPA Codes:

Health: NR

Flammability: NR

Reactivity: NR

Other: NR

HMIS Codes: * indicates chronic health hazard.

Health: NR

Flammability: NR

Reactivity: NR

Protection: NR

Label Statements: Not available

Other Information: Abbreviations:

(L) = Loose bulk density in g/ml

LOEC = Lowest observed effect concentration

MATC = Maximum acceptable toxicant concentration

NA = Not available

N/A = Not applicable

NL = Not limited

NOAEL = No observable adverse effect level

NOEC = No observed effect concentration

NOEL = No observable effect level

NR = Not rated

(P) = Packed bulk density in g/ml

PNOC = Particulates Not Otherwise Classified

PNOR = Particulates Not Otherwise Regulated

REL = Recommended exposure limit