1. Identification of the Substance/Preparation and the Company/Undertaking

Product name: TINUVIN 770
Chemical identification: bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate
CAS Number: 052829-07-9
Use: Stabiliser

Producer/Supplier: CIBA SPEZIALITÄTENCHEMIE AG
KLYBECKSTRASSE 141
POSTFACH
4002 BASEL
SWITZERLAND

Phone Number: +41 (61) 6361111
Telefax: +41 (61) 6361212
Information: Product Safety and Regulatory Affairs
Emergency Phone Number (24h): +41 (61) 6965151

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substances presenting a health or environmental hazard</th>
</tr>
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<tbody>
<tr>
<td>EC-Number</td>
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<tr>
<td>-------------</td>
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<td>258-207-9</td>
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</table>

<table>
<thead>
<tr>
<th>Content</th>
<th>Symbol(s)</th>
<th>R-Phrase(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 %</td>
<td>Xi - N</td>
<td>R36 - R51/53</td>
</tr>
</tbody>
</table>

3. Hazards Identification

Classified as hazardous according to the EU directives.
Xi Irritant
N Dangerous for the environment
Irritating to eyes.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. First Aid Measures

Skin contact
Wash off with soap and plenty of water. Do not use organic solvents.

Eye contact
Rinse immediately with plenty of water for at least 15 minutes. In case of eye irritation, seek medical attention.

Inhalation
Move to fresh air. In case of irritation of respiratory system or mucous membranes, seek medical attention. In case of indisposition, seek medical attention. In case of prolonged exposure, seek medical attention.

Ingestion
Immediately give plenty (> 500 ml) of water (if possible charcoal slurry). In case of spontaneous vomiting be sure that vomitus can freely drain due to danger of suffocation. Give water repeatedly. Artificial induction of vomiting should be restricted to first aid staff. Give nothing by mouth in cases of unconsciousness or convulsion. Seek medical advice.

5. Fire-Fighting Measures

Suitable extinguishing media
Water spray, Carbon dioxide (CO2), Foam, Dry powder

Extinguishing media which must not be used for safety reasons
High volume water jet
Exposure hazards
Contaminated water from fire hoses or sprinklers, etc., must be prevented from draining into watercourses, sewers, or the ground water. Sufficient measures must be taken to retain water used for extinguishing. Contaminated water and soil must be disposed of in conformity with local regulations.

Special protective equipment for firefighters
Wear full protective clothing. Wear self-contained breathing apparatus.

Combustion products
Oxides of carbon; Oxides of nitrogen (NOx); Toxic gases/vapours

6. Accidental Release Measures

Personal precautions
Do not breathe vapours/dust. Remove all sources of ignition. Avoid contact with skin, eyes and clothing.

Environmental precautions
Do not flush into surface water, sanitary sewer or ground water system.

Methods for cleaning up
Use mechanical handling equipment. Collect the spilled product into suitable containers, which must be tightly sealed and properly labelled. Avoid dust formation.

7. Handling and Storage

Handling
Handle and open container with care. Avoid dust formation and ignition sources. Ensure good local exhaust ventilation. Do not eat, drink or smoke at the workplace.

Storage
Keep away from food and drink. Store in the original container securely closed.

Danger! Explosion risk. Risk of explosion if an air-dust mixture forms. Avoid creating dusty conditions. Empty only into earthed containers. If container is larger than 2000 liter in volume, or when flammable solvents are present inert container or use a system otherwise designed to prevent or contain an explosion -- seek expert advice.

8. Exposure Controls / Personal Protection

Exposure limit(s)
CIEL-TWA Ciba internal exposure limit (8 hour time weighted average)
1 mg/m³
Effects on the respiratory system observed in animal study.

Technical measures/Precautions
Exposure limit(s) should be monitored using suitable analytical equipments.

Respiratory protection
Effective dust mask.

Hand protection
Protective gloves

Eye protection
Suitable goggles or face protection

Skin and body protection
Working clothes, Closed footwear

9. Physical and Chemical Properties

Form
powder

Colour
white to off-white

Odour
odourless

Melting/freezing temperature
81 - 85 °C

Boiling point/range
not applicable

Relative density 20 °C
1.05 g/cm³

Flash point
> 150 °C
Ignition Temperature 310 °C  BAM
Oxidising properties not tested
Self-ignition temperature not tested
Water solubility 20 °C < 1 mg/l
Vapour pressure 20 °C 1.3E-8 Pa
Partition coefficient; Log Pow 20 - 25 °C pH 7.0 0.35
pH-value 1 % suspension in water 20 - 25 °C 9.67
Explosive properties not tested

10. Stability and Reactivity
Decomposition temperature > 350 °C
Conditions to avoid Static discharges.
Materials to avoid Strong acids, strong bases and strong oxidising agents.
Hazardous decomposition products Oxides of carbon, Oxides of nitrogen (NOx), Toxic gases/vapours

11. Toxicological Information
Acute oral toxicity
Rat LD50 > 2000 mg/kg
Acute dermal toxicity
Rat LD50 > 2000 mg/kg
Acute Inhalation Toxicity
4 h Rat LC50 > 960 mg/m3
Acute eye irritation/corrosion
Rabbit irritant OECD 405
Acute dermal irritation/corrosion
Rabbit not irritant
Acute skin sensitisation
Guinea pig not sensitising OECD 406
Mutagenicity, Bacterial Systems not mutagenic

12. Ecological Information
Acute toxicity to fish
Rainbow trout 96 h LC50 13 mg/l OECD 203
Acute toxicity to daphnia
Daphnia magna 24 h EC50 17 mg/l OECD 202
Acute toxicity to bacteria
Sewage sludge 3 h IC50 > 100 mg/l OECD 209
Safety Data Sheet according to Directive 91/155/EEC

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Acute toxicity to algae
Scenedesmus sp. 72 h

| EBC50  | 1.9 mg/l | EEC C 3 |

Biodegradability
28 d

| Partly not readily biodegradable | OECD 301 E |

Biodegradability
28 d

| Not readily biodegradable | EEC C 5 |

Ecotoxic effects
Do not discharge product uncontrolled into the environment.

13. Disposal Considerations

Waste from residues / unused products
Residual chemical should be disposed by incineration or by other modes of disposal in compliance with local legislation.

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 legislation.

14. Transport Information

Flash point

| > 150 °C |

ADR/RID

| Class: 9 |

UN No.: 3077
Packaging group: III
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Additional Information: (BIS-(TETRAMETHYL-4-PIPERIDYL)SEBACATE)

IMO

| Class: 9 |

UN No.: 3077
Packaging group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Additional Information: (BIS-(TETRAMETHYL-4-PIPERIDYL)SEBACATE)

ICAO

| Class: 9 |

UN No.: 3077
Packaging group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Additional Information: (BIS-(TETRAMETHYL-4-PIPERIDYL)SEBACATE)

15. Regulatory Information

Classification

Self-classification

Symbol(s)

| Xi Irritant |

N Dangerous for the environment

R-Phrase(s)

| R36 Irritating to eyes. |

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Data Sheet according to Directive 91/155/EEC

TINUVIN 770

Revision 16.06.2004

S-Phrase(s)

S22 Do not breathe dust.
S25 Avoid contact with eyes.
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

Contains

bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate

16. Other Information

R-phrases from chapter 2

R36 Irritating to eyes.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Essential changes

Section 9 ; Section 11 ; Section 12 ; Section 15

TINUVIN is a registered trademark.

Important

THIS MATERIAL IS NOT INTENDED FOR USE IN PRODUCTS FOR WHICH PROLONGED CONTACT WITH MUCOUS MEMBRANES, BODY FLUIDS OR ABRASED SKIN, OR IMPLANTATION WITHIN THE HUMAN BODY, IS SPECIFICALLY INTENDED, UNLESS THE FINISHED PRODUCT HAS BEEN TESTED IN ACCORDANCE WITH NATIONALLY AND INTERNATIONALLY APPLICABLE SAFETY TESTING REQUIREMENTS. BECAUSE OF THE WIDE RANGE OF SUCH POTENTIAL USES, CIBA IS NOT ABLE TO RECOMMEND THIS MATERIAL AS SAFE AND EFFECTIVE FOR SUCH USES AND ASSUMES NO LIABILITY FOR SUCH USES.

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.