

® = registered trademark of BASF SE

Tinuvin® NOR™ 371

High molecular weight hindered amine NOR stabilizer

Characterization

Tinuvin NOR 371 is a high molecular weight hindered amine NOR stabilizer. Tinuvin NOR 371 is an excellent light and thermal stabilizer and is particularly well suited for applications in contact with chemicals, like agricultural products, such as greenhouse and mulch films or nonwovens.

Chemical name

Triazine derivative

Molecular weight

2800–4000 g/mol

Applications

Tinuvin NOR 371 areas of application include polyolefins (PP, PE) as well as olefin copolymers, such as EVA and EBA.

Features/benefits

Tinuvin NOR 371 is designed to provide outstanding stabilization to agricultural films even in presence of chemicals such as pesticides, insecticides or soil disinfection agents. It shows outstanding performance also as long-term thermal stabilizer; this behavior is especially useful where films are in contact with frames (wood, iron, aluminum).

Product forms

Code: Tinuvin NOR 371 FF
Appearance: slightly pinkish granules

Guidelines for use

| | | |
|-------|-------------------------------------|-----------|
| Films | UV stabilization of greenhouse film | 0.2–1.6 % |
| Films | UV stabilization of mulch films | 0.2–1.0 % |

Combined with UV absorbers (e. g. Tinuvin 326, Tinuvin 328, Chimassorb® 81 or Tinuvin 1577) it may give rise to synergistic effects.

Physical properties

| | |
|--------------------------|------------------------|
| Melting range | 91–104 °C |
| Specific gravity (24 °C) | 1.03 g/cm ³ |
| Vapor pressure (20 °C) | <0.6 Pa |
| Bulk density | 380–450 g/l |

| Solubility (20 °C) | % w/w |
|---------------------------|------------------------|
| Water | 3.3 × 10 ⁻⁵ |
| Tetrahydrofurane | > 100 |
| Dichloromethane | 10–100 |
| n-Octanol | 0.1–0.2 |
| Isopropanol | <0.1 |

Volatility

Weight loss (%)
 0.27
 0.46
 0.95
 2.36

**Pure substance; TGA;
heating rate 10 °C/min in air**

Temperature °C
 200
 225
 250
 275

Handling & Safety

Tinuvin NOR 371 requires no special safety measures, provided the usual precautions for handling chemicals are observed.

Avoid dust formation and ignition sources. For more detailed information please refer to the material safety data sheet.

Registration

| | |
|------------|------------------------------------|
| Australia: | pending |
| Canada: | notified |
| Europe: | polymer, monomers listed on EINECS |
| Japan: | MITI |
| Korea: | pending |
| USA: | TSCA |

Important Notes

- 1.) Use of Tinuvin NOR 371 light stabilizer in combination with flame retardants may constitute infringement of Australian Patent No. 735643 or/and US Patent No. 5,393,812 and of any existing equivalent patents or any patents granted on equivalent patent applications in other countries.
- 2.) Please be aware that the presence of BHT antioxidant in plastic articles containing Tinuvin NOR 371 can give rise to discoloration, if the article is stored in absence of light. This effect normally disappears upon UV exposure without significantly affecting the light stabilization properties of Tinuvin NOR 371. Antioxidants like Irganox® 1010 and Irganox 1076 do not give rise to such an effect under normal conditions.

Note

The descriptions, designs, data and information contained herein are presented in good faith, and are based on BASF's current knowledge and experience. They are provided for guidance only, and do not constitute the agreed contractual quality of the product or a part of BASF's terms and conditions of sale. Because many factors may affect processing or application/use of the product, BASF recommends that the reader carry out its own investigations and tests to determine the suitability of a product for its particular purpose prior to use. It is the responsibility of the recipient of product to ensure that any proprietary rights and existing laws and legislation are observed. No warranties of any kind, either expressed or implied, including, but not limited to, warranties of merchantability or fitness for a particular purpose, are made regarding products described or designs, data or information set forth herein, or that the products, descriptions, designs, data or information may be used without infringing the intellectual property rights of others. Any descriptions, designs, data and information given in this publication may change without prior information. The descriptions, designs, data and information furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability for the descriptions, designs, data or information given or results obtained, all such being given and accepted at the reader's risk.

February 2011