Ciba® TINUVIN® NOR™ 371

High Molecular Weight Hindered Amine NOR Stabilizer

Characterization

TINUVIN NOR 371 is a proprietary high molecular weight hindered amine NOR stabilizer. TINUVIN NOR 371 is an excellent UV / thermal stabilizer and is particularly well suited for agricultural film applications, such as greenhouse and mulch films.

Chemical name

Triazine derivative

Molecular weight

2800-4000

Applications

TINUVIN NOR 371 areas of applications 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 antioxidant; this behavior is especially useful where films are in contact with frames (wood, iron, aluminum).

Product forms

Code:	TINUVIN NOR 371 FF
Apperance:	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 327, TINUVIN 328, Ciba CHIMASSORB® 81 or TINUVIN 1577) it may give rise to synergistic mixtures.

Physical Properties

Melting Range	120 – 150 °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 x 10^{-5}
Tetrahydrofurane	> 100
Dichloromethane	10 - 100
n-Octanol	0.1 - 0.2
Isopropanol	< 0.1

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

Weight Loss (%)	*Temperature °C*
0.27	200
0.46	225
0.95	250
2.36	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 Ciba IRGANOX® 1010 and Ciba IRGANOX® 1076 do not give rise to such effect in normal conditions.