

PowerNox™ TDP Triisodecyl Phosphite Antioxidant

INTRODUCTION

PowerNox™ TDP is a phenol-free liquid trialkyl phosphite that functions as a secondary antioxidant and processing stabilizer. It helps protect polymer systems against oxidative degradation during processing and contributes to improved color retention and thermal stability.

CHEMICAL NAME

Triisodecyl phosphite

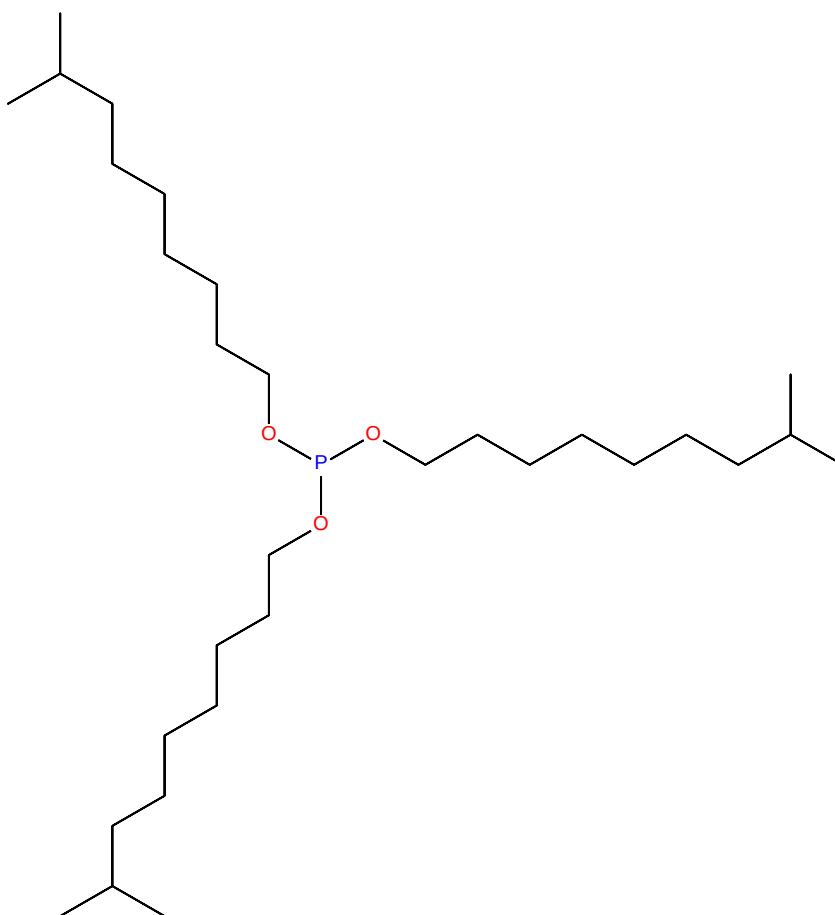
CAS NUMBER

25448-25-3

EINECS NUMBER

246-998-3

CHEMICAL STRUCTURE



CHEMICAL FORMULA

$C_{30}H_{63}O_3P$

MOLECULAR WEIGHT

502 g/mol

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PHYSICAL PROPERTIES

Appearance	Colorless, transparent liquid
Color (APHA)	Max. 50
Refractive Index (25°C)	1.4440–1.4540
Density (25°C)	0.865–0.885 g/cm ³
Acid Value	Max. 0.10 mg KOH/g
Phosphorus Content	5.8–6.6%

These values are typical and are not intended for use as specifications.

APPLICATIONS

PowerNox™ TDP is used as a secondary antioxidant and heat stabilizer in polyolefins, polyurethanes, PVC, ABS, PET and coating formulations. It helps maintain color consistency and processing stability by limiting oxidative degradation during thermal processing.

In rigid and plasticized PVC, PowerNox™ TDP can improve initial color and clarity and help maintain a uniform appearance. In polyurethane foams, it helps reduce oxidative discoloration and scorch associated with processing, and contributes to resistance against phenolic and NOx-related yellowing.

It is also suitable for use in selected lubricant formulations requiring phosphite-based oxidative stabilization.

USAGE GUIDELINES

The suggested dosage of PowerNox™ TDP is 0.1-2.0%. The optimum addition level should be determined according to the polymer system, processing conditions and required stabilization performance.

PACKING

PowerNox™ TDP is supplied in 170 kg steel drums.

HANDLING & STORAGE

Handle in accordance with good industrial practice. Avoid unnecessary personal contact and ensure adequate ventilation during use.

Keep the container tightly closed and store in a cool, dry and well-ventilated place. PowerNox™ TDP has a shelf life of 12 months from the date of manufacture in the original unopened packaging. Protect from moisture and keep away from heat, ignition sources, strong oxidizing agents and reducing agents.

For more detailed information, refer to the Safety Data Sheet (SDS).

NOTE

All information in the leaflet is based on our present knowledge and

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experience. We reserve the right to make any changes according to technological progress or further developments. Performance of the product described herein should be verified by testing.

We specifically disclaim any other express or implied warranty of fitness for a particular purpose or merchantability.

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