

UNIRICHNOX 101

Low-Volatility High-Temperature Ashless Aminic Antioxidant

p,p'-Diocetyldiphenylamine for durable oxidation control, deposit management and color stability.

PRODUCT OVERVIEW

UNIRICHNOX 101 is a high-purity, sterically hindered diarylamine antioxidant developed for mineral-oil, synthetic-oil, vegetable-oil and grease formulations exposed to elevated temperatures. Its high molecular weight, low volatility and oil solubility provide durable oxidation protection, help control sludge and deposits, and support long lubricant service life.

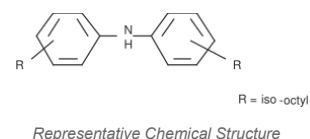
CHEMICAL IDENTITY

Common Name: p,p'-Diocetyldiphenylamine

Trade Name: UNIRICHNOX 101

CAS No.: 15721-78-5

EC No.: 239-816-9



KEY BENEFITS

- Excellent high-temperature oxidation inhibition and thermal stability.
- Low volatility helps reduce antioxidant depletion during prolonged high-temperature operation.
- Helps control oxidation-derived sludge, varnish and deposits in oils and greases.
- Good color stability compared with many conventional diphenylamine derivatives.
- Effective synergy with other aminic antioxidants, hindered phenols, PANA and metal deactivators.

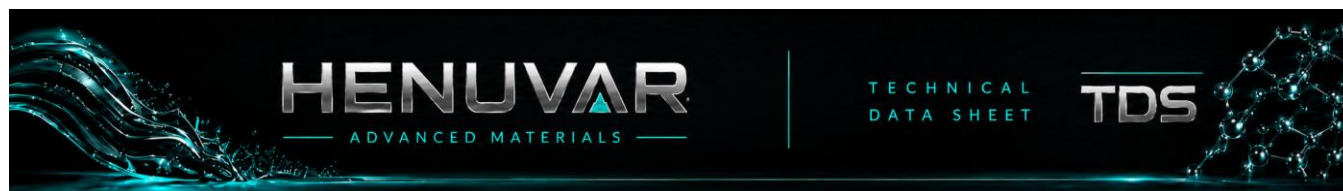
RECOMMENDED TREAT RATE

Typically 0.10–2.0% by mass in the finished lubricant. Select the final dosage through finished-fluid testing for the chosen base oil, co-additives, operating temperature and target performance. Compatibility, oxidation stability, deposits and color should be verified in the complete formulation.

TYPICAL CHARACTERISTICS

Values shown are typical and do not constitute a sales specification unless agreed in writing.

Property	Test Method	Typical Value
Appearance	Visual	White to pale-yellow powder
Density at 20 °C, g/cm ³	ASTM D1298	1.015
Flash point, °C	ASTM D92	> 150
Melting onset, °C	-	> 95
Solubility in mineral oil, mass %	-	> 5
Solubility in ester base stock, mass %	-	> 5
Solubility in water	-	Insoluble
Nitrogen content, mass %	Internal method	3.4
Total base number, mg KOH/g	ASTM D664	132
Ash, mass %	ASTM D482	< 0.01
TGA mass loss at 300 °C, %	Internal method	5–10



APPLICATION GUIDE

UNIRICHNOX 101 is intended for high-temperature antioxidant service in industrial oils and greases. The range below is a formulation starting point; final dosage must be confirmed by laboratory and, where appropriate, field validation.

Function	Treat Rate	Typical Applications	Compatible Approach	Validate
High-temperature antioxidant	0.10–2.0%	Compressor, turbine, gear, chain and transmission oils; engine oils; greases	Mineral, hydrotreated, PAO, ester, silicone and selected vegetable-oil systems	Oxidation life, deposits, color, seals and filterability

FORMULATION GUIDANCE

- Add to the base oil or partial additive package under agitation at a temperature that ensures complete dissolution.
- Where broader oxidation control is required, evaluate combinations with hindered phenols, PANA, other diarylamines and metal deactivators.
- Confirm oxidation life, sludge and varnish, color stability, elastomer compatibility and filterability in the finished lubricant.

PACKAGING

- 20 kg package
- Custom OEM packaging available

STORAGE AND HANDLING

Store in tightly closed original packaging indoors or under shelter, protected from moisture, direct sunlight and contamination. If outdoor storage is unavoidable, protect containers from rain and standing water. Do not store above 60 °C; avoid freezing conditions and large temperature swings. Follow first-in, first-out inventory practice.

HEALTH, SAFETY AND ENVIRONMENT

Consult the current Safety Data Sheet (SDS) before handling. Observe the specified exposure controls, personal protective equipment, spill response, transport and disposal requirements. Avoid inhalation of dust, prolonged skin contact and release to the environment.

Disclaimer

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