



VeryOne[®]

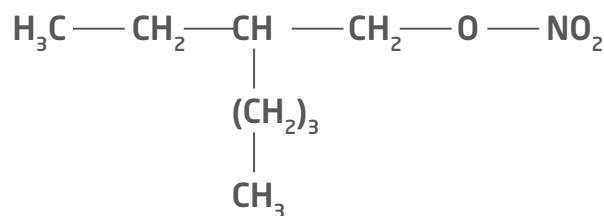
Cetane Improver

A EURENCO Company

VeryOne[®] Cetane Improver 2-EHN



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VeryOne® Cetane Improver (2-ETHYLHEXYL NITRATE)

Molecular formula : C₈H₁₇NO₃
 Molecular weight : 175.23
 CAS Nr : 27247-96-7
 EINECS Nr : 248-363-6

SYNONYMS

- Nitric acid, 2-ethylhexyl ester (EINECS Name)
- 2-Ethylhexyl Nitrate (2EHN) (IUPAC name)

ASPECT

Colourless clear liquid.
 Pungent, fatty, fruity ester odour

USES

Cetane improver
 (Fuel additive)

TRANSPORT

Refer to corresponding Safety Data Sheet

PHYSICAL PROPERTIES

Boiling point:
 Decomposition before boiling

Decomposition Temperature:

- DSC thermal analysis (42.8°F/mn (6°C/mn)):
 - Start: 320°F (160°C)
 - ONSET: 363.2°F (184°C)
 - T° max: 410°F (210°C)
 - Δ H: 1210 J/g

- RSST (Thermal runaway temperature): 266°F (130°C)

Vapour pressure:

5.8e-4 - 7.7e-4 Psi at 50°F
 (4.0-5.3 Pa at 10°C)

3.9e-3 Psi at 68°F
 (27 Pa at 20°C)

5.8e-3 - 7.7e-3 Psi at 104°F
 (40-53 Pa at 40°C)

Solubility:

- In water: 12.6 mg/l at 68°F (20°C)
- In hydrocarbons, methanol and typical chlorinated solvents.

STORAGE

- Store in a ventilated area in tightly closed containers equipped with means of preventing the product from reaching 212°F (100°C)
- Maximal recommended handling temperature: 140°F (60°C)
- Maximal recommended storage temperature: 104°F (40°C)
- Shelf life: 2 years

SPECIFICATION

Parameter	Guaranteed value	Method
Aspect	Clear liquid	Visual examination
Color	≤ 50 APHA	Coloration (APHA)(1)
Purity	≥ 99.0 %	Gas chromatography
Alcohol content	≤ 1.0 %	Gas chromatography
Water	≤ 500 ppm	Karl Fischer
Mineral Acidity (HNO ₃)	≤ 30 ppm	Titration
Density at 138.2°F (59°C)	8.06 ± 0.04 lbs/gal (0.967 ± 0.005 kg/l)	Digital Density Meter
Sulfur Content	< 15 ppm	Wavelength Dispersive X-Ray Fluorescence Spectrometry

Note⁽¹⁾: 50 APHA equivalent to 50 Hazen according to ASTM D 1209
 250 APHA equivalent to 0 according to ASTM D 1500
 280 APHA equivalent to 0.5 according to ASTM D 1500

PHYSICAL PROPERTIES

Gradual Solidification : < -122 °F (-50 °C)
 Kinematic Viscosity (68°F/20 °C) ν : 2.76e-3 inch²/s (1.78 mm²/s)
 Dynamic Viscosity (68°F/20 °C) η : 2.47e-7 Psi/s (1.7 mPa/s)
 Nitrogen content : 7.92 to 8.00 %

GARANTEED VALUES WITH RESPECT OF THESE ABOVE CRITERIA AND PERIODICAL CHECKING

Flash point > 149°F (65 °C) Pensky-Martens Closed Cup Tester

STANDARD PACKAGING

- Bulk
- Drums
- Totes