

K CHIMICA S.R.L.

Via Taglio Sinistro, 63/a - 30035 Mirano (VE)
Tel. 0039 041 908333 – Fax 0039 041 908843
e-mail: info@kchimica it - sito internet: www.kchimica

e-mail: info@kchimica.it - sito internet: www.kchimica.it

C.F.e P.IVA 02465890271 Capitale Sociale: € 500.000 int. vers.

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Technical Data Sheet

Rev. 2 - Data rev. 12/2014

K.NOX 1010

HMW Phenolic Primary Antioxidant



<u>CHEMICAL NAME</u> Pentaerythritol Tetrakis[3-(3,5-di-tert-butyl-4-

hydroxyphenyl)propionate] or Tetrakis[methylene(3,5-di-tert-

butyl-4-hydroxyhydrocinnamate)]methane

 CAS NUMBER
 6683-19-8

 EINECS NUMBER
 229-722-6

 MOLECULAR FORMULA
 C₇₃H₁₀₈O₁₂

STRUCTURE

HO O O O

MOLECULAR WEIGHT

1178 Dalton

CHARACTERIZATION

K.NOX 1010 – a H.M.W. sterically hindered phenolic compound – acts as Radical Scavenger or, as commonly said, as Antioxidant for organic substrates such as thermoplastic resins, synthetic fibers, elastomers, coatings, adhesives, lubricants and waxes.

It protects these substrates against the thermo-oxidative degradation during processing and, above all, during long-term ageing, avoiding the consequent loss of their mechanical and aesthetic properties.

K.NOX 1010 is the first choice non-discolouring protector, having good compatibility with all polymers, high resistance to extraction and low volatility; it is odourless, tasteless and is approved in many Countries for polymers used in food contact application (information available upon request).

The efficiency of **K.NOX 1010** is enhanced by combination with secondary stabilizers (thioethers, phosphites, phosphonites), metal deactivators, acid neutralizers, epoxy resin (as filler surface modifier) in filled compounds.

Pag. 1 a 2

Technical Data Sheet: K.NOX 1010

PHYSICAL PROPERTIES	Appearance	White, odourless,
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tasteless free- flowing powder

Purity (HPLC) ≥ 98%

Melting range (capillary) 110-125°C

Volatiles (2h @ 105°C) ≤ 0,5%

Ash ≤ 0.1 %

Transmittance % (solution of 10 g /100 ml toluene, 1 cm cell)

@ 425 nm ≥ 95%
@ 500 nm ≥ 97%

Specific gravity @ 20°C 1.15 g/cm3

Flash point 297 °C

Decomposition temperature > 350°C

Solubility @ 20°C (g/100ml solvent)

Methylene chloride 63

Chloroform 71

Acetone 47

 Acetone
 47

 Toluene
 60

 Ethyl acetate
 47

 Hexane
 0.3

 Methanol
 0.9

 Ethanol
 1.5

 Water
 < 0.01</td>

PACKAGING K.NOX 1010 is supplied in 25 kg net plastic bags into a cardboard

box.

TOXICOLOGY Acute oral toxicity (LD50 rat) > 2000 mg/kg

Acute skin toxicity (LD50 rat) > 2000 mg/kg

STORAGE/HANDLING K.NOX 1010 must be stored in a dry and ventilated cool place, in

securely closed drums. Maximum recommended storage time under suitable condition (dry and cool): 5 years. Protect eyes and

face and use gloves when handling the product.

For detailed information on toxicity, storage and handling please

refer to the relevant Material Safety Data Sheet.

APPLICATION K.NOX 1010 is especially recommended for use in all types of

polyolefines (omo and copolymers).

Its use is recommended as well in POM, PA, PUR, PES, PVC, HIPS,

ABS, elastomers (IIR, SBS/SIS, latex, EPDM).

K.NOX 1010 is also largely used:

- In synthetic lubrificants for high temperature application

- In hot melt and solvent or water based adhesives

- In coatings against over bake yellowing.

ADDITION LEVELS Taking into account the type of polymer, the type and amount of

pigments, fillers, synergistic additives and the expected service

life, K.NOX 1010 should be used at 0.10 to 1.00 phr.

Extensive performance data of K.NOX 1010 in various polymers

and specific application areas are available upon request.

The information submitted in this publication is based on our current knowledge and experience. In view of the many factors that may affect processing and application, this data does not relieve processors from the responsibility of carrying out their own tests and experiments. Neither do they imply any legally binding assurance of certain properties or of suitability for a specific purpose. It is the responsibility of those to whom K Chimica supply their own products to ensure that any proprietary rights or patents and existing laws and legislation are observed. The product has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

Pag. 2 a 2

Technical Data Sheet: K.NOX 1010