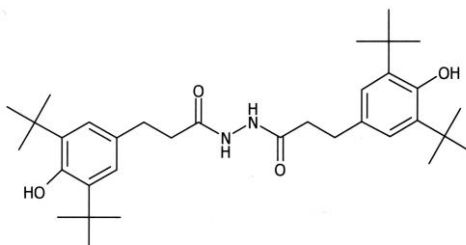


K.NOX 1024

Copper deactivator and primary antioxidant for polyolefines and rubbers in wire and cable sheathing

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|---------------------------------|---------------------------------------------------------------|
| <u>CHEMICAL NAME</u> | 1,2-Bis(3,5-di-tert-butyl-4-hydroxyhydrocinnamoyl)hydrazine |
| <u>CAS NUMBER</u> | 32687-78-8 |
| <u>EINECS NUMBER</u> | 251-156-3 |
| <u>MOLECULAR FORMULA</u> | C ₃₄ H ₅₂ N ₂ O ₄ |
| <u>STRUCTURE</u> | |



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|--------------------------------|------------|
| <u>MOLECULAR WEIGHT</u> | 553 Dalton |
|--------------------------------|------------|

CHARACTERIZATION

K.NOX 1024 is the world-wide "work-horse" copper deactivator and primary phenolic antioxidant for the protection of olefinic polymers and elastomers in contact with copper and copper alloys during processing and LTT service (like in the wires and cables or in metal inserts in technical parts) avoiding the catalytic oxidative degradation induced by the copper itself.

At the same time **K.NOX 1024** behaves as a powerful radical scavenger (antioxidant) characterized by strong extraction resistance and even processing stability, expressly if combined with K.NOX 900.

| | | |
|----------------------------------------------|------------------------------------------------------------------------|------------------------|
| <u>CHEMICAL - PHYSICAL PROPERTIES</u> | Appearance | Off-white powder |
| | Odour | Odourless |
| | Assay (GC) | ≥ 99 % |
| | Melting range (capillary) | 221-232°C |
| | Specific gravity @ 20°C | 1.18 g/cm ³ |
| | Ash | ≤ 0.1 % |
| | Flash point (C.C. DIN 51584) | >180°C |
| | Volatility, % weight loss (TGA-analysis, heating rate 20°C/min in air) | 5% at 285°C |
| | | 10% at 295°C |

| | |
|-------------------------------------|-------|
| Solubility @ 20°C (g/100ml solvent) | |
| Toluene | <0.01 |
| Acetone | 4 |
| Hexane | <0.01 |
| Methanol | 4 |
| Water | <0.01 |

PACKAGING

K.NOX 1024 is supplied in 25 kg net plastic bags into a cardboard box

TOXICOLOGY

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| Acute oral toxicity (LD50 rat) | > 2000 mg/kg |
| Acute dermal irritation | not irritant |

STORAGE/HANDLING

K.NOX 1024 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 1024 is the additive mostly used world-wide to protect olefin resins and elastomers from the catalytic oxidation promoted by the copper ions of the electric conductors into the olefinic or elastomeric sheath itself. It can also be used to offer the same protection to technical plastics parts containing copper or copper alloys insert.

ADDITION LEVELS

For olefin polymers and elastomers (e.g. TRE, NBR, SBR, SBS, SIS) but also PA and TPU resins used to sheath wires and cable or containing copper inserts, **K.NOX 1024** is used at 0.15 - 0.25% to assure maintenance of the mechanical and aesthetic properties of the plastics items during their processing and service life, even if for a stronger maintenance of the original MFI in processing it is advisable to add 0.15% of K.NOX 900

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.