STABAXOL® P
Plastic Additives / Hydrolysis Stabilizer

Function
Stabaxol® P is an aromatic polycarbodiimide. It functions as antihydrolysis agent for millable urethane rubbers and thermoplastic polyester polyurethanes (TPU) as well as polyester polymers (PET, PBT, TPE) and polyamides.

Product description

Chemical composition: Aromatic polycarbodiimide

Physical form as supplied: - Powder (contains approx. 4% aerosil to prevent lumping)
- prills

Density: approx. 1.05 g/cm³ (20 °C / 68 °F)

Melting range: Approx. 60 - 90 °C (140 - 194 °F)
- at approx. 50 °C (122 °F) it begins to sinter
- above 70 °C (158 °F) it is resinous
- above 90 °C (194 °F) it is a viscous fluid

Carbodiimide content: > 12.5 %

(N=C=N)

Flash Point: 310 °C (590 °F)

Ignition Temperature: > 455 °C (851 °F)

Solubility: very easily soluble in petrol (gasoline), benzene, carbon tetrachloride, trichloroethylene, methylenechloride; poor solubility in acetone; nearly insoluble in ethyl alcohol, water, and polyesters.

The analytical data are general guide values.

Product information
Depending on the number of acid end groups and the humidity content of the polymer to be stabilized, as well as the stabilizing effect to be obtained, it is recommended to use 0.5 - 5.0 weight-% Stabaxol® P to process millable PUR rubbers and 0.5 - 2.5 weight-% in case of polyesters, polyamides, thermoplastic polyurethanes.

The most suitable dosage depends on the requirements to be met and should always be ascertained in preliminary trials. Trials have provided proof that by addition of 3 weight-% of Stabaxol® P in millable polyurethanes, hydrolysis resistance is increased by 5 times compared to unprotected material. The addition of merely 2.0 weight-% Stabaxol® P to PET increases the life time of the latter by 3-4 times.
Stabaxol® P may be processed preferably by way of separate feeding or alternatively by direct incorporation as a dry blend.

![Graph: Hydrolytic Stability of Polyester based Polyurethane Elastomers](image)

Stabaxol® P may be processed on any unit suitable for polyester and polyamide processing that provides sufficient dispersion of the material in the polymer. With regards to the extruder equipment, experience showed that it is advisable to use a twin-screw extruder equipped with a L/D ratio > 38. Appropriate cooling of the feeding zone is recommended to avoid particle accumulation in the feeding area. At processing temperature, traces of volatile matters can escape, which may temporarily cause irritation of skin, eyes and respiratory passages. It is highly recommended to provide adequate local ventilation at all places where Stabaxol® P stabilized products are exposed to temperatures exceeding 200 °C (392 °F). In particular, it is necessary to avoid direct contact with liberated vapours.

**Packaging**
20 kg fibre drums/540 kg per pallet (approx. 44 lb/1188 lb per pallet)

**Storage stability**
According to experience available, if stored at about 20 °C (68 °F) in originally closed containers, Stabaxol® P can be kept for at least 24 months without becoming less effective. Store in cool and dry place.

During transportation or in case of prolonged storage at slightly elevated temperatures, one might observe agglomeration of the particles. Please make sure that such agglomerations are being broken prior to use.

**Handling & safety**
Relevant safety data and references as well as possibly necessary warning labels are to be found in safety data sheet.

® = registered trade mark
This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold and our advisory service is given in accordance with the current version of our General Conditions of Sale and Delivery.

LANXESS Deutschland GmbH
Business Unit Additives
Kennedyplatz 1
D-50569 Cologne, Germany
http://add.lanxess.com