Trixene BI 7774

Formerly Trixene DP9B/1911

Baxenden Chemicals Limited
Speciality Chemicals Division, Paragon Works, Baxenden,
Nr Accrington, Lancashire BB5 2SL England
Tel: +44 (0) 1254 872278 Fax: +44 (0) 1254 302400

Technical Information

Trixene BI 7774 is a low viscosity, highly flexible urethane designed to flexiblise epoxy resins, thus reducing the inherent brittleness of standard epoxy systems.

Sales Specification

Viscosity @ 25°C	40,000 ± 15,000 mPa.s

Typical Properties

Appearance	Clear viscous liquid
Apparent NCO Content	2.1-2.4% (calculated)
NCO Equivalent Weight	1750-2000 (calculated)
Solids Content	>99.5%
Flash Point	>100°C
Specific Gravity	1.0-1.1
For combination with epoxy resin, use equivalent weight	875-1000 (calculated)

Product description

Trixene BI 7774 is a highly flexible urethane designed for flexibilising epoxy resins. Epoxy resins flexibilised with **Trixene BI 7774** retain many of the properties of an epoxy system, however the inherent brittleness associated with many epoxy formulations is much improved upon by the co-reaction of the urethane with amine curatives under ambient conditions.

Trixene BI 7774 is a solventless, aromatic urethane crosslinker containing blocked isocyanate groups thereby eliminating sensitivity to moisture and improving handling at ambient temperatures.

Solubility and compatibility

Trixene BI 7774 will dissolve in most common solvents including acetates, ketones, esters and aromatics, but shows limited solubility in aliphatic hydrocarbons. For ambient cure applications **Trixene BI 7774** can be diluted in alcohols and water. Viscosity can also be modified by addition of common plasticisers: phthalates, adipates and tri-octyl phosphate can be used.

Curing agents

Final properties of the system will depend upon the choice of curing agent. For ambient cure the best results are given by aliphatic and cycloaliphatic amines.

The following testing was carried out on various blends of **Trixene BI 7774** with **Araldite GY250** (epoxy resin based on Bisphenol A) cured against **Laromin C260** (amine).

Epoxy resin (pbw)	BI7774 (pbw)	Amine (pbw)	Ultimate Tensile Strength (MPa) ASTM D638	Elongation (%) ASTM D638	Shore A Hardness ASTM D2240	Shore D Hardness ASTM D2240
60	40	22.9	21.4	39.4	-	68
50	50	20.2	15.4	53	-	60
40	60	17.4	10.7	65	96	53
20	80	12.0	3.5	79	86	30
0	100	5.6	1.6	>300	63	11

The results given are typical values and do not constitute a specification.

Storage and handling

Trixene BI 7774 is unaffected by moisture and is free of monomeric isocyanates at ambient temperatures. It is however advisable to store the product in a cool dry place in sealed containers to ensure constant product quality. It is recommended that contact with skin and eyes is avoided consult MSDS for further details.

Suppliers

Trixene BI7774	**Blocked isocyanate**	**Baxenden Chemicals Ltd**
Araldite GY250	Epoxy resin based on bisphenol-A	Ciba Speciality Chemicals Inc.
Laromin C260	Cycloaliphatic amine	BASF

Baxenden Chemicals Ltd reserve the right to amend or alter specifications as necessary. Please consult **Trixene BI 7774** Material Safety Data Sheet before using this product.

Version:- 001

Last revised: 05/04/05