Trifunctional Benzoxazine

– Monomer for high heat-resistant thermosetting resins –

Product Benzoxazine monomer with a benzene ring surrounded by three oxazine rings

Application Matrix resin for CFRP, semiconductor sealing material etc.,

Feature High heat resistance, low shrinkage

BACKGROUND

JMTC has concluded a license agreement for the trifunctional benzoxazine developed by JSR Corporation and is promoting commercialization.

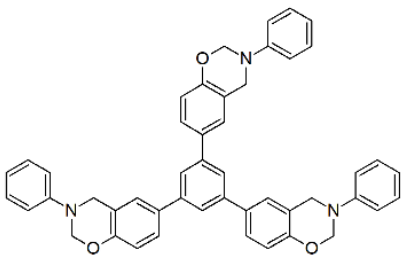
PRODUCT OVERVIEW

Benzoxazine is a generic name for cyclic monomers with which ring-opening polymerization proceeds with no catalyst when heated and polybenzoxazine which is low-shrinkage curable thermosetting resin is derived. Polybenzoxazines have excellent heat resistant, flame retardant, low-hygroscopic, low-dielectric and low thermal expansion characteristics.

Trifunctional benzoxazine is expected to derive thermosetting resin with higher heat resistance, as high crosslinking proceeds due to ring-opening polymerization of its three oxazine rings and polymer network that has plenty of intermolecular hydrogen bridges and intramolecular hydrogen bonds is formed.

Molecular formula	$C_{48}H_{39}N_3O_3$
Molecular weight	705.8
Melting point	106.7～107.8°C
Curing temperature	T_{onset} 208°C $T_{peaktop}$ 238°C
Decomposition Temperature (Cured resin)	T_{d5} 396°C T_{d10} 424°C
Char yield (Cured resin)	Y_c 74%@600°C
Appearance	White powder

＜Structural formula＞



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