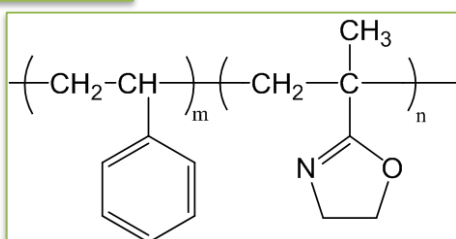


EPOCROS™ RPS-1005」

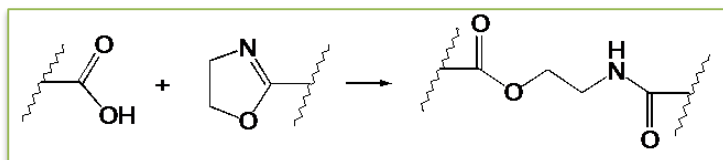
Reactive compatibilizer, Dispersant

EPOCROS™ RPS-1005 is a polystyrene-based resin which has oxazoline groups as its pendant. By utilizing the characteristics of oxazoline groups as polar functional groups and high reactivity with carboxyl groups, EPOCROS™ RPS-1005 is expected to have wide variety of application fields in thermoplastic area as reactive compatibilizer and dispersant.

Structural formula



Reaction of oxazoline groups



Properties

Test Item	Typical Result	Test method and conditions
Main structure	Styrene	
Appearance	White granule	
Weight Average Molecular Weight	160,000	ASTM D3536 (Polystyrene Standard)
Density	1.05	JIS K7112 (B)
Amount of oxazoline groups	0.27 mmol/g	Calculated value
Glass Transition Temp.	109°C	DSC method
Thermal Decomposition Temp.	403°C	TG-DTA method (Nitrogen atmosphere)
Melt Flow Rate	6-10g/10min	5kg load, 200°C

※ The above data indicates typical values as a reference and those are not guaranteed.

Applications

- Compatibilizer** : Compatibilizer of various alloy (PS, PPS, PPE / PBT, PET etc.)
 Reaction of oxazoline groups with carboxy groups of resins makes dispersoid smaller and improves properties of alloys such as impact strength and so on.
- Dispersant** : Dispersant of various resins (PS,ABS,PPS,PPE etc.) with inorganic fillers (GF etc.).

Resins compatible with RPS-1005	Functional groups reactive with Oxazoline	Resins reactive with Oxazoline
PS HIPS PPS PPE	Carboxy groups	PET, PBT, PA
	Aromatic SH	PPS
	Aromatic OH	PC, PPE

「POLYIMILEX™」 Maleimide copolymer



“POLYIMILEX™” is the copolymer that has been developed by using maleimide (Imilex-P) which was first commercialized by Nippon Shokubai.

Polyimilex™ is effective in enhancing heat resistance by compounding Polyimilex™ with various thermoplastic resins. Polyimilex™ is expected to be used for developing new applications as raw material for new polymer alloys.

Features

- Heat resistance : Effective in enhancing heat resistance of various thermoplastic resins
- Low impurities : Polyimilex™ contains very low impurities because of using purified maleimide by distillation as raw materials

Properties

Test Item	PSX0371	PAS1460	PML203
Monomers	N-Phenylmaleimide Styrene	N-Phenylmaleimide Styrene Acrylonitrile	N-Phenylmaleimide Methyl methacrylate Styrene
Weight Average Molecular Weight	130,000	170,000	200,000
Glass Transition Temp.	202°C	167°C	140°C
Heat Deflection Temp.	174°C	144°C	125°C
Izod Impact Strength	11J/m	12J/m	14J/m
Melt Flow Rate	2.6g/10min (265°C)	22g/10min (265°C)	5.8g/10min (240°C)
Refractive Index	1.60	1.59	1.52
Color	Pale Yellow	Pale Yellow	Colorless(Transparent)
Feature	Very high heat resistance Compatibilizer	Compatibility	Colorless transparent Scratch resistance
Applications	HH ABS Alloys(PA/ABSetc)	HH ABS	Transparent HH ABS Colorde AES, ASA
Appearance	Pellet	Granule	Pellet
Package	20kg paper bag	20kg paper bag	20kg paper bag

※ The above data indicates typical values as a reference and those are not guaranteed.

「POLYIMILEX™ PML203」 Heat Resistance Improver (Transparent Type)

“POLYIMILEX™ PML203” is Methylmethacrylate - Styrene - N-Phenylmaleimide copolymer that has been developed by using maleimide (Imilex-P) which was first commercialized by Nippon Shokubai. PML203 is excellent in transparency. Without damaging transparency and colorability, PML203 has a good performance on improving a heat resistance of various resins, ABS, MBS, MS, AS, AES, ASA etc..

Features

Colorless transparent	: No damage to transparency and colorability of resins
Heat resistance	: Effective in enhancing heat resistance of resins
Surface hardness (Scratch resistance)	: Excellent in surface hardness Effective in enhancing scratch resistance of resins
Moldability (Flowability)	: Excellent in flowability No damage to moldability of resins

Properties

Test Item	Typical Result	Test method and conditions
Glass Transition Temp.	140°C	ASTM D3418
Weight Average Molecular Weight	200,000	ASTM D3536 (Polystyrene Standard)
Specific Gravity	1.20	ASTM D792
Refractive Index	1.52	ASTM D542
Heat Deflection Temp.	125°C	ASTM D648, 18.6kg load, not annealed, 1/4”
Izod Impact Strength	14J/m	ASTM D256, Notched, 1/4” , 23°C
Melt Flow Rate	5.8g/10min	ASTM D1238, 98N, 240°C

Example of PML203 / Resins Blend

Test Item	ABS/PML203 (65 / 35)	ABS	AES/PML203 (65/35)	AES
Heat Deflection Temp. (°C)	99	81	100	90
Izod Impact Strength (J/m)	170	440	120	560
Rockwell hardness (R-scale)	117	100	114	96
Melt Flow Rate (g/10min, 220°C)	12	23	8	18



※ The above data indicates typical values as a reference and those are not guaranteed.

「POLYIMILEX™ PSX0371」 Heat Resistance Improver, Compatibilizer

“POLYIMILEX™ PSX0371” is Styrene - N-Phenylmaleimide copolymer that has been developed by using maleimide (Imilex-P) which was first commercialized by Nippon Shokubai.

Features

- Heat resistance : Effective in enhancing heat resistance of ABS resins
- Compatibility : Effective for compatibilizing various polymer alloys

Properties

Test Item	Typical Result	Test method and conditions
Glass Transition Temp.	202°C	ASTM D3418
Heat Deflection Temp.	174°C	ASTM D648, 18.6kg load, not annealed, 1/4”
Refractive Index	1.60	ASTM D542

Example of PSX0371/Nylon 6/ABS Blend

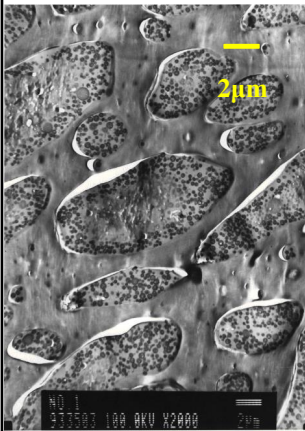
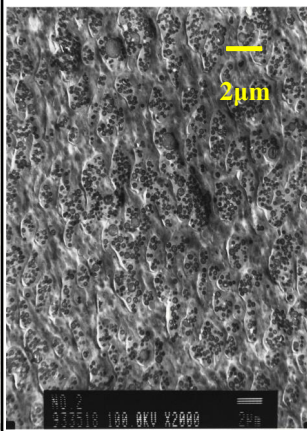
Compounding Ratio :

Sample 1. PSX0371/Nylon 6/ABS = 0/50/50wt%

Sample 2. PSX0371/Nylon 6/ABS = 5/47.5/47.5wt%

Sample 3. PSX0371/Nylon 6/ABS = 10/45/45wt%

Compounding Conditions : Barrel Temperature 240°C, Screw Speed 100 rpm

Test Item	Sample 1 (PSX 0%)	Sample 2 (PSX 5%)	Exam 3 (PSX 10%)
Heat Deflection Temp. (°C)	79	89	97
Izod Impact Strength (J/m)	6	14	11
Melt Flow Rate (g/10min, 240°C)	80	54	42
TEM images (OsO ₄ staining)			

※ The above data indicates typical values as a reference and those are not guaranteed.