

Based on IDEMITSU Stereo-regularity Control Tech.

Crystalline Polyalphaolefin

CPAO

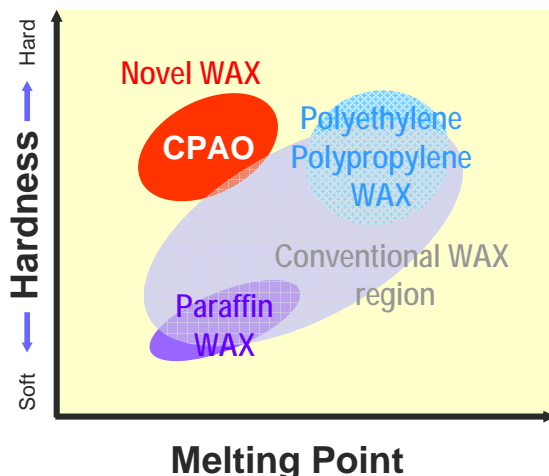
DEVELOPMENTAL PRODUCT

For Adhesive Modifier, Resin Modifier and Wax Modifier, etc

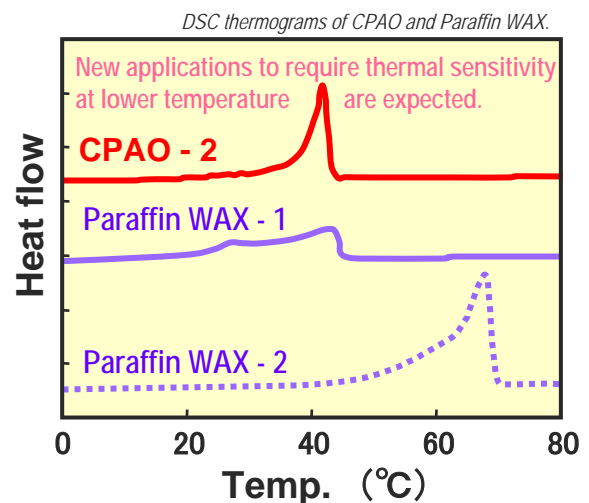
Excellent Properties

- Hard and high crystallinity with low melting point
- High resistance to thermal degradation
- Melt sharply at 85 to 120F
 - Same high fluidity as polyolefins when melting
 - Soluble in various solvents
 - Not sticky and easy to handle (m. p. >104F)

Hard and low melting polymer



Fusion property



Hard with low melting point

Hardness of CPAO and references

Solvent	CPAO-2	CPAO-3	Paraffin wax	PE wax
Needle penetration	1	1	13	2

Based on IDEMITSU Stereo-regularity Control Tech.

Crystalline Polyalphaolefin

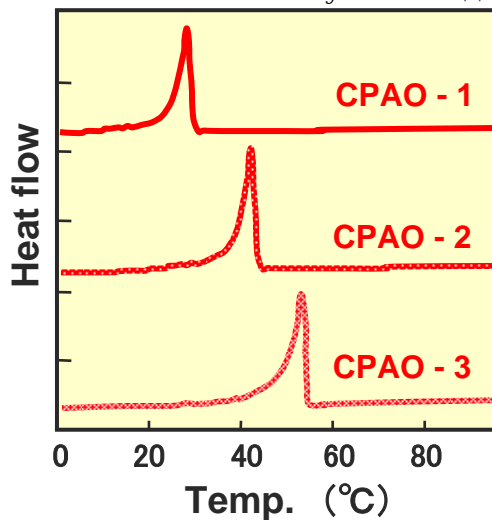
CPAO

DEVELOPMENTAL PRODUCT

Melting property

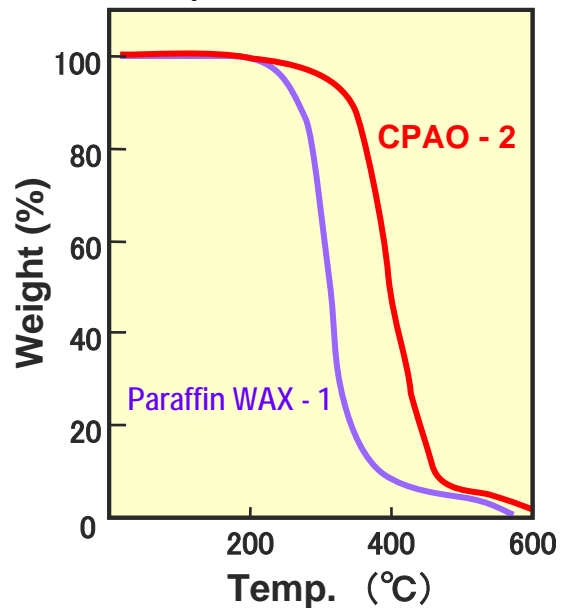
- Controllable melting points in range of 85-120F

DSC thermograms of CPAO-1,2,3



Heat-decomposition resistance

TG thermograms of CPAO-2 and Paraffin wax-1 in Air.



Solubility

- Easy to clean after use
- Possible molding by solvent cast

Solubility of CPAO and references

Solvent	CPAO-2	Paraffin wax-1	Paraffin wax-2	PE wax
Toluene	excellent	fair	fair	fair or poor
Me-cyclohexan	excellent	fair	fair	poor
heptan	excellent	fair	fair	poor
methanol	poor	poor	poor	poor

- r.t., wax 25wt%, - **excellent**: homogeneously soluble, **fair**: cloudy, **poor**: not soluble
 - melting point paraffin wax-1: 109F, paraffin wax-2: 154F, PE Wax: 226F

Typical properties

Melt viscosities in the range of 50-1500 mPa-S at 284F are controllable.

	CPAO			Comparable materials	
	CPAO-1	CPAO-2	CPAO-3	Paraffin wax	PE wax
Density (kg ³ /m)	890	900	900	900	920
Melting point (F)	82	106	127	109	226
Heat of fusion (J/g)	71	79	102	104	122
Temp. of losing 5wt% in the air (F)	606	606	606	478	606

The typical data represented herein were measured under certain specific condition.

Idemitsu Kosan Co.,Ltd.

