

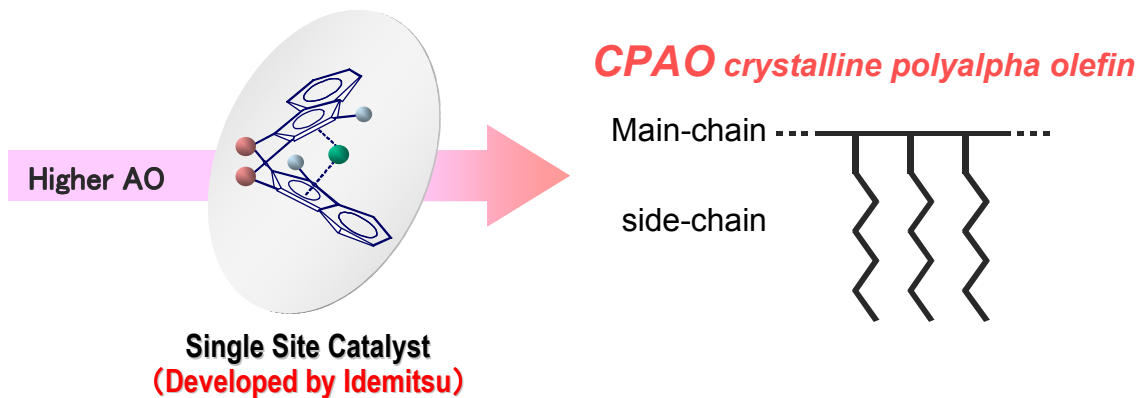
Based on IDEMITSU Metallocene Catalyst Tech.

# Crystalline Polyalphaolefin

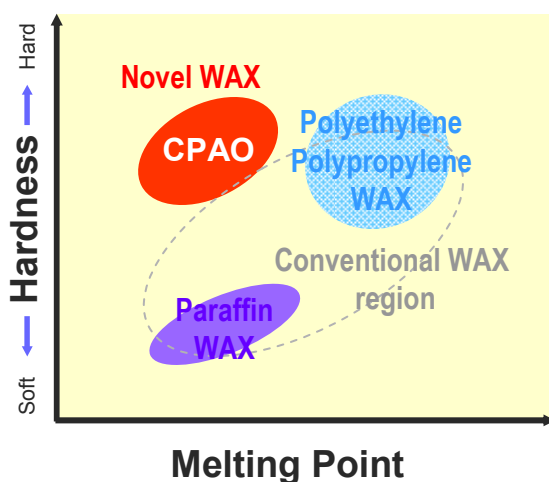
## CPAO

DEVELOPMENTAL PRODUCT

### New polyolefin by IDEMITSU



### Hard and low melting polymer



### Application ideas

- Adhesive Modifier
- Resin Modifier
- Wax Modifier

CPAO gives new region of PO properties by using New Single Site Catalyst.

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# Crystalline Polyalphaolefin

## CPAO

DEVELOPMENTAL PRODUCT

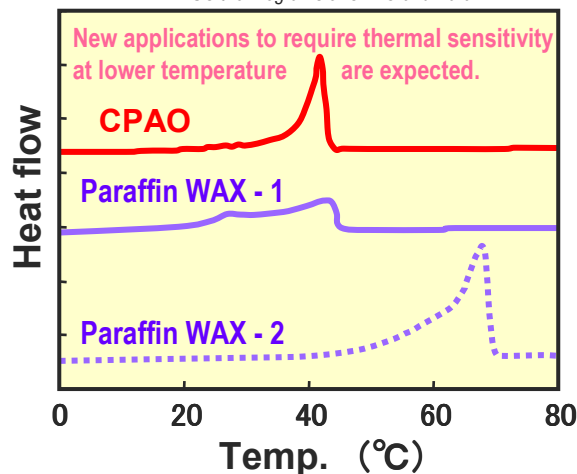
For Adhesive Modifier, Resin Modifier and Wax Modifier, etc

### Excellent Properties

- Hard and high crystallinity with low melting point
- High resistance to thermal degradation
- Melt sharply at 28 to 50°C
- Same high fluidity as polyolefins when melting
- Soluble in various solvents
- Not sticky and easy to handle (m. p. >40°C)

### Comparison with paraffins

DSC thermograms of CPAO and Paraffin WAX.



### Typical properties

Melt viscosity are controllable in the range of 50-1500 mPa·s at 140°C with no change of melting point.

	CPAO			Comparable materials	
	CPAO-1	CPAO-2	CPAO-3	Paraffin wax	PE wax
Density (kg <sup>3</sup> /m)	890	900	900	900	920
Melting point (°C)	28	41	53	43	108
Heat of fusion (J/g)	71	79	102	104	122
Temp. of losing 5wt% in the air (°C)	319	319	319	248	319

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

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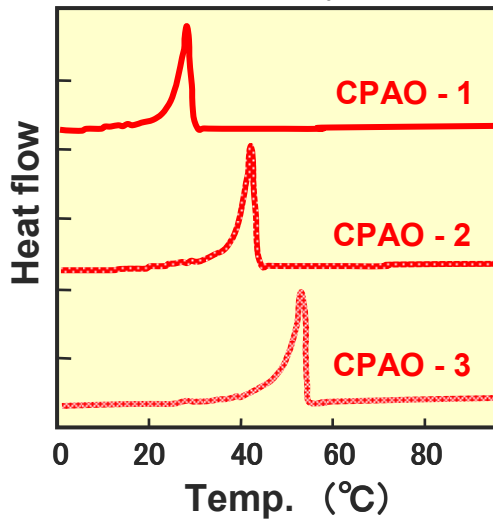
## CPAO

DEVELOPMENTAL PRODUCT

### Melting property

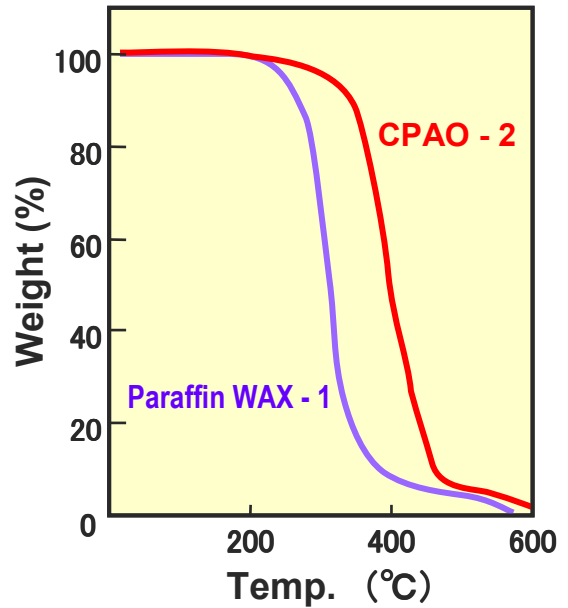
- Controllable melting points in range of 28-50°C

DSC thermograms of CPAO-1,2,3



### Heat-decomposition resistance

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



### Hardness

Hardness of CPAO and references

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

### Solubility

- Easy to clean after use

- Possible to mold by solvent cast

Solubility of CPAO and references

	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%,  
- melting point

- **excellent**: homogeneously soluble, **fair**: cloudy, **poor**: not soluble  
paraffin wax-1: 43°C, paraffin wax-2: 68°C, PE Wax: 108°C

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