



TECHNOLOGY MAKES LIFE BETTER

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安徽艾约塔硅油有限公司

IOTA CORPORATION LTD.

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TDS of Organic polysilazane IOTA 9118

Organic polysilazane IOTA 9118

Alias: Potteryable precursor polymer

Product Features:

Low viscosity

Short curing time

Various curing methods

High temperature resistance to 1500°C

High ceramic yield

Good adhesion on the metal ceramic graphite materials

Easy to prepare SiCN ceramics

Product description:

Organopolysilazane IOTA 9108 is a liquid precursor polymer consisting of repeating Si-N units. It can be used as a thermosetting resin and a ceramic precurs. Under relatively mild conditions, the SiCN ceramic products with excellent temperature resistance are obtained, especially for high temperature resistant adhesives.

Applications:

Ceramic matrix composites (CMCs)

Metal matrix composites

High temperature resistance to 1500°C

High temperature resistant adhesive

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Tel: 86-552-3827158; Fax: 86-552-3822922 Website: www.polysilazane.cn



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Anticorrosive coating

High temperature resistant anti-oxidation ceramic coating

Ceramic preform impregnated

Thermosetting resin

Organic and inorganic hybrid materials

Packaging:

Upon customer demand, it is packed in 0.5-20 liters in aluminum drum, solid content is 100%.

Technical Parameters:

Apparent features:	colorless to light yellow liquid
Solid content %:	100%
Viscosity:	10-30 cp
Molecular weight (Mn):	700-900
Ceramic density :	1.60-2.00 g/cm-3
Cured ceramic production (800°C) :	>75%
VOC (%) :	N/A
Ceramic yie(800°C) :	>55%

Solvent:

Polysilazane IOTA 9118 can be diluted with various polar or non-polar dry solvents. It is sensitive to water, alcohol solvents, hydrolysis or alcoholysis reaction, to make the product deteriorate. And it should avoid contact with acid, alkali and other proton type substances.

Curing conditions:

IOTA 9118 can be cross-linked under the temperature of 120-180 °C, curing can be done in

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air or inert atmosphere.

IOTA 9118 can also do hydrosilylation reaction by platinum catalyst , curing at 80-100 °C.

The curing time depends on the curing temperature and the amount of catalyst, usually 2-5 h.

Cracking conditions:

First, IOTA 9118 cured product converted to amorphous ceramics by high temperature cracking, eventually get crystalline ceramics. It is amorphous product below 1400 °C, begin to crystallize above 1400 °C. Ceramic product composition has great relationship with cracking atmosphere, SiC and Si₃N₄ under nitrogen or argon; mainly Si₃N₄ under Ammonia; mainly SiOCN under air conditions. In addition, the cured product cracking is easily influenced by filler, and result affects the composition of the final ceramic product.

Shelf life:

Shelf life of unopened polysilazane IOTA 9108 is half year; opened polysilazane shelf life is depend on protection measures. Under sealed low temperature drying condition, the lifetime is more than two months.

Precautions:

When use polysilazane, it should be in a ventilated, dry environment and with the necessary protective measures such as gloves, masks, goggles; We shouldn't put the uncured IOTA 9108 near fire, humid air and water.

Clean:

Proper cleaning method is important. After use, take acetone or solvent oil immediately to

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wipe the tool and clean. Once IOTA 9108 cured, the solvent cannot be washed away.

For details, please contact,

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