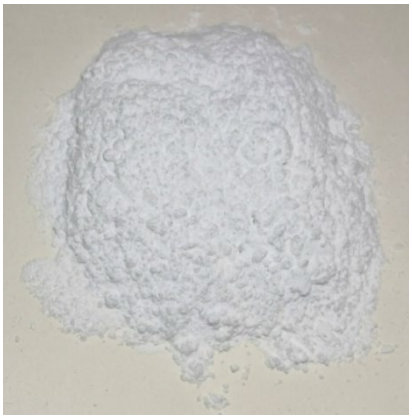
Modified dicyandiamide (OTB) TDS

OTB is a modified dicyandiamide type curing agent with medium reactivity for high gloss epoxy resin based powder coatings . Due to its ideal distribution characteristics in the epoxy resin, it can provide a high quality finish at low curing temperatures.

1. Typical characteristics



Color: white or off-white powder

Content:＞97%

Melting point: 139-143° C

Moisture : <0.5%

Chloride: <0.4%

curing agent	Ingredients	Suitable for powder coating types	Typical addition amount phr	Gloss @60℃	Shortest curing time	Gel time @180℃ /second	Product Advantages
OTB	Replacement of dicyandiamide	All epoxy coatings	5-6	90-100	15min@160℃	100-143@5phr (using type 3 epoxy)	High gloss, clear epoxy coating

2. Application

OTB is a medium-reactive curing agent for high-gloss epoxy powder coatings based on dicyandiamide derivatives. It is used in solid epoxy resin formulations without any further accelerators . In powder coating formulations based on solid bisphenol A epoxy resins, OTB is typically used at a dosage of 3.5%. Its advantages include complete solubility in the molten epoxy resin and very uniform distribution throughout the formulation , enabling the production of high-gloss , color-stable , and fast-reacting epoxy powder coatings .

Typical applications include car wheels, interior decoration, ceiling lights, door latches, fancy wood strips, auto parts, etc.

The recommended minimum curing time is 15 minutes at 160° C (metal temperature). Curing is also possible at 140° C, with very good mechanical properties and a high gloss surface finish .

Comparable to CASAMID 710 and DYHARD OTB products, it has high cost performance.

3. Packaging

Net weight: 25kg, polyethylene lining, carton packaging.

4. Shelf life

Please store in a cool, dry place. It is recommended to use up within 12 months.

V. Emergency Response

Avoid contact with skin and eyes. In case of contact, rinse with plenty of water.

6. Contact: Manager Zhang, +8613583101557 (WeChat ID: same)

7. Typical formula

The following is a typical extruded epoxy powder coating formulation. Test results and performance may vary depending on the resin, fillers, and additives used.

The results show that to achieve the best mechanical properties, the curing temperature should not be lower than 140° C. At 200° C, the coating begins to yellow. The optimal curing temperature is about 160° C, which has the best gloss, mechanical properties, color and gloss properties.

Epoxy resin GT 7004 (EEW=733)	60%
OTB	3.5%
Additives *	36.5%
total	100 %

Curing conditions	140 ℃ /15min	160 ℃ /15min	180 ℃ /15min
Thickness [mm]	65	65	65
Glossiness (60 ℃) %	104	102	100
Lightness [L*]	90	88	91
Yellow [b*]	-0.5	-1.2	0.8
Erichsen cupping [mm]	3	>8	>8
Ball impact test [J]	8	>20	>20
Conical mandrel bending test [mm]	20	<5	<5
Cross-cut test	0-1	0-1	0-1

Epoxy resin GT 7004:
Huntsman Araldite (EEW=805g/ mol)= 4%
Benzoin = 0.3%
Titanium dioxide 2160:10.2%
Ultrafine calcium carbonate Omyacarb SV1: =22%