

**Advanced Materials**

Surface Technologies

POWDER COATINGS

**DATA SHEET**
**Araldite® PT 810**
**Hardener for polyester or acrylic resin powder coatings**
**Properties**

Araldite PT 810 is an isocyanurate based, crystalline polyepoxide compound suitable for the formulation of polyester or acrylic resin based powder coatings for outdoor applications. It imparts good weather resistance due to its highly stable heterocyclic ring. Its three functional epoxide groups ensure high reactivity and cross-linking density when it is reacted either with carboxyl-containing oil-free polyesters based on aromatic dicarboxylic acids or with carboxyl-containing acrylic resins. The powders cure without releasing volatiles.

**Key data**
**Specified key data**

<b>Aspect (visual)</b>	<b>white pellets</b>	
<b>Epoxy index (ISO 3001)</b>	<b>9.30 - 10.00</b>	<b>[Eq/kg]</b>
<b>Epoxy equivalent (ISO 3001)</b>	<b>100 - 108</b>	<b>[g/Eq]</b>
<b>Melting point (DSC, ISO 11357)</b>	<b>88 - 98</b>	<b>[°C]</b>

Specified key data are individually checked throughout and guaranteed.

**Typical key data**

Bulk density (ISO 15100)	0.80	[g/ml]
Density at 25 °C (ISO 8130-3)	1.46	[g/cm <sup>3</sup> ]
Flash point (ISO 2592)	≥ 200	[°C]
As-supplied form	white, opaque pellets (low dust) approx. 3-5 mm	
Odour	none	
Shelf life (at storage temperature between 2 - 40 °C) (see expiry date on original container)	1.5 years	
Hazardous decomposition products (when disposed of in fire)	carbon monoxide, carbon dioxide and other toxic gases and vapours	
Disposal	regular procedures approved by local authorities	

Typical key data are spot checked; the values are typical for the product and are indicated for information only. The values are not guaranteed.

Mix ratios and reactivity	Components		Parts by weight	
	Araldite PT 810	70	70	70
	Uralac P 3400 (DSM)	930	-	-
	Uralac P 3900 (DSM)	-	930	-
	Crylcoat 2430-0 (Cytec)	-	-	930
	Modaflow Powder II	10	10	10
	Benzoin	2	2	2
	Titanium dioxide 2160 (KRONOS)	500	500	500
	Gel time at 180 °C	[s]	175	240
	Cure conditions (DIN 55990)			285
	10 min	[°C]	200	195
	15 min	[°C]	185	190
			180	185
<b>Storage</b>	Araldite PT 810 should be stored in a dry place, preferably in the sealed original container, at temperatures between 2 and 40 °C. The product should not be stored exposed to direct sunlight.			
<b>Handling precautions and toxicity</b>	<p>Unlike most other epoxy resins Araldite PT 810 in its uncured state is moderately to highly toxic if ingested or inhaled and causes marked irritation of mucous membranes although it has little primary irritative effect on the skin. Animal experiments indicate that the risk of a weak allergy promoting effect on humans cannot be excluded.</p> <p>Comprehensive mutagenicity experiments carried out with bacteria, cell cultures and mice have shown that Araldite PT 810 has a significant damaging effect on chromosomes and that high doses have an increased toxic effect on vital organs such as bone marrow, blood and lymphoid cells. The data obtained from animal experiments show that the danger of mutagenic effects on humans cannot be excluded if high doses are ingested or inhaled.</p> <p>Araldite PT 810 is now supplied in non-dusting pellet form. Nevertheless, dust may still be generated, particularly during processing, and could then be inhaled or absorbed through the skin when the product is handled. It follows that, whenever Araldite PT 810 is being processed, the industrial hygiene precautions listed in the safety data sheet (MSDS) should be strictly observed, e.g. good workplace ventilation and extractors wherever dust may be generated. To ensure maximum workplace safety, the local concentration of Araldite PT 810 in the air should never be allowed to exceed 0.08 mg/m<sup>3</sup> (8 h TWA). Operators working where this safety limit cannot be maintained should always wear dustmasks, gloves and overalls.</p> <p>Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and processed. For additional information please consult the corresponding product safety data sheets and the brochure "Hygienic precautions for handling plastics products".</p>			

**Note** Araldite® is a registered trademark of Huntsman LLC or an affiliate thereof.

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