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Technical data sheet

Methylhexahydrophthalic anhydride (MHHPA – MHHPA/WW – MHHPA/SW)

Version: February 2007

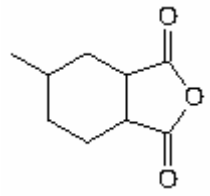
Synonyms

Hexahydro-4-methylphthalic anhydride; Hexahydro-5-methyl-1,3-isobenzofurandione; 4-Methylcyclohexane-1,2-dicarboxylic acid anhydride

Formula

$C_9H_{12}O_3$

Structural formula



Molecular weight: 168.2

CAS number

19438-60-9

EINECS number

243-072-0

Product specification

Characteristics	Unit	Value			Method*	Reference
		MHHPA	MHHPA/WW	MHHPA/SW		
Appearance		Clear liquid	Clear liquid	Clear liquid	L000	
Purity	%	99.0 min	99.0 min	99.0 min	L001	
Colour	Hz	20 max	20 max	20 max	GM011	ASTM D-1209
Acid content	%	0.5 max	0.5 max	0.5 max	L002	
Refractive index n^{25}_D		1.479 max	1.479 max	1,479 max	GM020	ASTM D-542
Viscosity @ 25°C	mPa.s	50 ÷ 70	50 ÷ 70	50 ÷ 70	G006	DIN 53015
Heat stability [(a)]	Hz	-	50 max	-	GM011	ASTM D-1209
Stability [(b)]	Hz	-	-	100 max	L017	

[(a)] 2h @ 160°C [(b)] 2% BDMA, 2h @ 50°C

* *Internal methods available upon request.*

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Typical properties

Characteristics	Unit	Value (all versions)
Density @ 25°C	g/ml	1.149
Viscosity @ 25°C	mPa.s	53.0
Vapour pressure @ 120°C	mmHg	3.0

Main applications

MHHPA is mainly used as hardener for epoxy resins or as raw material for polyurethane/polyester resins for coating application.

Because of its cycloaliphatic structure, it imparts very good resistance to the UV radiations and to the atmospheric agents.

As hardener for epoxy resins MHHPA gives finished products very light colour (water white) with outstanding mechanical and electrical characteristics. For this reason it is particularly recommended for special electric or electronic applications such as “high performance led”.

Product range

MHHPA It’s the basic product suitable for general purpose applications suggested when excellent mechanical and chemical properties are requested in association with good colour retention.
It is recommended for the production of transformers suitable for external use and “general purpose led”.

MHHPA/WW It is a very pure material water-white in colour, with outstanding colour retention even when it’s heated for a long period at high temperature.
Suitable for “high performance led” (O.E.M.).

MHHPA/SW This product allows to reach good colour performances even using amine accelerators.

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Handling

Packaging:	plated zinc drum 220 kg; bulk; upon request other form of packaging can be available.
Storage:	it must be stored away from open flames or other potential ignition source, and should be protected from moisture because it easily crystallizes when in contact with the air humidity. Therefore, when some crystallization occurs, properties check is suggested before reusing.
Shelf life:	12 months from production date.