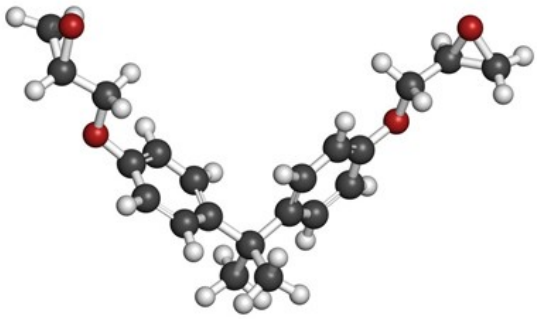
iBiotec®

THE BRAND OF A MANUFACTURER

AEROSOLS and TECHNICAL PRODUCTS for industry

Datasheeet - *Last update: 2018/04/04*



Epoxy cleaning solvent

Manufacture and use

iBiotec® FAST CLEAN ORANGE 100

solvent for resin manufacturers

NON-FLAMMABLE, VOC-FREE

HUGE SETTLING POWER

RECYCLABLE, REUSABLE

HALOGEN-FREE, SULPHUR-FREE

SUBSTITUTE for NMP and NEP (CMR)

iBiotec® FAST CLEAN MANGO 36

cleaning solvent for epoxy resin applicators

IMMEDIATE DISSOLVING POWER UP TO TECAM GEL

GUARANTEED ABSENCE OF CMR SUBSTANCES, NO KETONES

Current applications
Adhesives, binders
Construction materials, paints, floor coverings, paving, aggregates
Tanks, vats, piping, pipelines and their inner coating
Rolled-steel sections
Mouldings
Gel-coats
Automotive components
Aeronautical and aerospace structural elements
Transformers, turbines, switches on electric machines, wind turbine components
Solder masks, SMD components in electronics
"Soft feel" coating on home appliances
Sports and recreation, tennis rackets, skis, wind surfing boards, golf clubs, gliders, musical instruments, fishing rods, etc.
Composites

The most commonly used resins are epichlorohydrins (ECH). Bisphenol A (BPA) compounds suspected of being endocrine disruptors (DGESA) may be replaced by aliphatic or aromatic glycols, phenolic novolacs or cresols, hydantoins (glycolylurea), bromines or acrylates.
The most common hardeners are polyisocyanates (diphenylmethane diisocyanates, MDI), aliphatic amines, anhydride hardeners, and triglycidyl isocyanurates (TGIC)

Cleaning solvents and materials used for the dissolution of epoxide resins depend on several factors; the choices are more complicated in the case of applicators.
The choice will depend on the available time before complete polymerisation and obtention of a polyepoxide (polymer obtained after the polymerisation has finished).
This time is defined in 5 stages
1- The **storage temperature** of the components, or the temperature at the start of application, is very low and insufficient for the reaction to occur.
2- The **POT LIFE**: the temperature of the component(s) is sufficient, and the reaction commences.
The "pot life" is the time at the end of which the viscosity of the mixture has doubled.
For example, if the viscosity of the mixture is 10,000 cps, and becomes 20,000 cps after 30 minutes, the pot life will be 30 minutes. The expression "pot life"
can sometimes lend itself to ambiguity when referring to mixtures with ultra-fast reactions.
3- The usable time for its use (**WORKING LIFE**). Usually this value is provided by the manufacturer. This is the time during which the product may be applied.
4- The gel time (**GEL TIME TECAM**). The product becomes a gel, and can no longer be applied (its viscosity can no longer be measured). The polyepoxide hardens into its shape; this is often referred to as pre-polymerisation.
5- The polyepoxide is fully polymerised; this is the **POLYMERISATION TIME**; it now has its final physicochemical and mechanical properties.

The complexity may arise for two reasons:
At what stage of the reaction does cleaning need to take place? (including dissolution after complete polymerisation).
What quantities are being used? The times will vary depending on the quantities. For example, in the case of a 5-minute bi-compound glue, 3 grammes used will not have the same reaction time as 300 grammes used.

TECHNICAL DATA SHEET
iBiotec® FAST CLEAN ORANGE 100
solvent for resin manufacturers

TYPICAL PHYSICAL-CHEMICAL PROPERTIES

PROPERTIES	STANDARDS	VALUES	UNITS
Appearance	Visual	Clear	-
Colour	Visual	Yellow	-
Smell	Olfactory	Slight, orange	-
Density at 25°C	NF EN ISO 12185	1.012	kg/m^3
Refraction index	ISO 5661	1.4380	-

Freezing point	ISO 3016	-15	°C
Water solubility	-	0	%
Kinematic viscosity at 40°C	NF EN 3104	2.3	mm^2/s
Acid index Ia	EN 14104	<1	mg(KOH)/g
Iodine index	NF EN 14111	0	$gI_2/100g$
Water content	NF ISO 6296	<0.001	%
Residue after evaporation	NF T 30-084	0	%
PERFORMANCE CHARACTERISTICS			
PROPERTIES	**STANDARDS**	**VALUES**	**UNITS**
KB index	ASTM D 1133	>200	-
Evaporation speed	-	>3	hours
Surface tension at 20°C	ISO 6295	34.5	dyne/cm
Copper blade corrosion 100 h at 40°C	ISO 2160	1a	Measured value
Aniline point	ISO 2977	nm	°C
FIRE SAFETY CHARACTERISTICS			
PROPERTIES	**STANDARDS**	**VALUES**	**UNITS**
Flashpoint (closed cup)	NF EN 22719	>100	°C
Autoignition point	ASTM E 659	>200	°C
Lower Explosive Limit	NF EN 1839	0.9	% (volume)
Upper Explosive Limit	NF EN 1839	8.7	% (volume)
Explosive, oxidising agent, flammable, highly or extremely flammable substance content	CLP Regulation	0	%
TOXICOLOGICAL CHARACTERISTICS			
PROPERTIES	**STANDARDS**	**VALUES**	**UNITS**
Anisidine index	NF ISO 6885	<3	-
Peroxide index	NF ISO 3960	nm	$meq(O_2)/kg$
TOTOX (anisidine index+2x peroxide index)	-	nm	-
CMR, irritant and corrosive substance content	CLP Regulation	0	%
Residual methanol content from transesterification	GC-MS	0	%
Emissions of hazardous compounds, CMR, irritants, corrosive at 100°C	GC-MS	nm	%
ENVIRONMENTAL CHARACTERISTICS			
PROPERTIES	**STANDARDS**	**VALUES**	**UNITS**
Water hazard	WGK Germany	1 without hazard for water	class
Primary CEC biodegradability 21 days at 25°C	L 33 T82	>80	%
OECD easy biodegradability 301 A over 28 days Disappearance of COD	ISO 7827	>80	%
OECD easy and ultimate biodegradability 301 D over 28 days Biodegradation at 67 days	MITI amended	nm	

TECHNICAL DATA SHEET
iBiotec® FAST CLEAN MANGO 36
cleaning solvent for epoxy resin applicators

PHYSICAL-CHEMICAL CHARACTERISTICS

CHARACTERISTICS	NORMS	VALUES	UNITS
Aspect	Visual	Limpid	-
Colour*	Visual	Wan	-
Odour	Olfactory	Fruity	-
Density at 25°C	NF EN ISO 12185	918	kg/m^3
Refractive index	ISO 5661	1.3970	-
Freezing point	ISO 3016	< -30	°C
Solubility in water	-	Insoluble	%
Kinematic viscosity at 40°C	NF EN 3104	1.0	mm²/s
Acid index	EN 14104	0	mg(KOH)/g
Iodine index	NF EN 14111	0	gI_2/100g
Water content	NF ISO 6296	0	%
Residue after evaporation	NF T 30-084	0	%
PERFORMANCE CHARACTERISTICS			
CHARACTERISTICS	**NORMS**	**VALUES**	**UNITS**
Kauri Butanol Index	ASTM D 1133	177	-
Evaporation speed	-	6	min
Superficial tension at 20°C	ISO 6295	24.8	dynes/cm
Copper blade corrosion 100 h at 40°C	ISO 2160	1a	Listing
FIRE SAFETY CHARACTERISTICS			
CHARACTERISTICS	**NORMS**	**VALUES**	**UNITS**
Flash point (isolation)	ISO 2719	36	°C
Self-ignition point	ASTM E 659	> 200	°C
Lower explosive limit	NF EN 1839	0.4	% (volume)
Upper explosive limit	NF EN 1839	4.8	% (volume)
TOXICOLOGICAL CHARACTERISTICS			
CHARACTERISTICS	**NORMS**	**VALUES**	**UNITS**
Anisidine index	NF ISO 6885	0	-
Peroxide index	NF ISO 3960	0	meq(O_2)/kg
TOTOX (anisidine index + 2x peroxide index)	-	0	-
CMR / irritant / corrosive substances content	CLP Regulation	0	%
Residual methanol content (product of transesterification)	GC-MS	0	%
ENVIRONMENTAL CHARACTERISTICS			
CHARACTERISTICS	**NORMS**	**VALUES**	**UNITS**
Biodegradability	OCDE 301	biodegradable	-
Steam pressure at 20°C	-	1.2	kPa

OVC (Organic-Volatile Compounds) content	-	100	%
Sulphur content	GC MS	0	%
Benzene content	ASTM D6229	0	%
Total halogen content	GC MS	0	%
Chlorinated solvents content	-	0.00	%
Aromatic solvents content	-	0.00	%
Content of substances which are dangerous to the environment	CLP Regulation	0	%
Content of compounds with a PRP factor	-	0	%
Content of compounds with an ODP factor	-	0	%

* not measured or not measurable

iBiotec® Tec Industries®Service
Z.I La Massane - 13210 Saint-Rémy de Provence – France
Tél. +33(0)4 90 92 74 70 – Fax. +33 (0)4 90 92 32 32
www.ibiotec.fr