

ASTROBIO™ PA

Bio solvent blend, replacement of PMA (CAS n. 108-65-6) Technical Data Sheet

Product name: ASTROBIO™ PA
Manufacturer: Liberty Chemicals s.r.l. (Italy)
Contact: info@astrobiosolvent.com

Area of Use:

Bio-solvent replacement of PMA in many industrial application. **ASTROBIO™ PA** it's used in formulation of coatings, adhesives, paints and inks based on acrylics, epoxies, alkydics, vinylics, polyesters, melamines, phenolics and ABS resins. It has a great solvency power for rosins, nitrocellulose and some kinds of nylons as well. Very effective as cleaner and degreaser in industrial settings too. **ASTROBIO™ PA** it's also compatible with bio-based polymers such as bio-based polyesters and it's currently used in coil coating industry and in the formulation of silk screen printing inks. It's a valid alternative to many petrochemical solvents in the formulation of industrial and household cleaners or in the formulation of paint strippers and graffiti removers.

Technical Benefits:

- 20%-30% more efficient in viscosity reduction than PMA.
- **Better cleaning power and reduced solvent usage than PMA.**
- Dries completely and leaves no residue.
- **Ideal for the formulation of paints, inks and coatings.**
- Easy and inexpensive to distill or recycle.
- **Strong solvency power for different resins, polymers grade and soils.**
- High loading capacity.

Available Packaging:

Drums	IBC	Bulk
190Kg	950Kg	≥ 10MT
net weight	net weight	net weight



Key Features:

Bio-based solvent according to EN 16575

Flashpoint	40° C	EN 3679
RER (BuOAc=1)	0,22	Calculated
Vap. pressure (20°C)	0,63 kPa	Calculated
Boiling range	110° - 172° C	-

Solvency power:

HSP's	δd	δp	δh	δt	Calculated
	16,32	5,54	11,84	21,16	

Environmental Benefits:

- Readily biodegradable raw materials.
- Slow Climate change: carbon neutral balance.
- Sustainable chemistry: renewable raw materials.
- No ozone depleting chemicals (ODC).
- No environmental hazardous ingredients.
- No hazardous air pollutants.

Health Benefits:

- Aromatics, ketones, paraffins, alogens and terpenics FREE.
- Fruity and pleasant smell.

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Guaranteed Specifications

Properties	Standard	ASTROBIO™ PA	Units
Appearance	Visual	Clear colourless liquid	-
Colour	ASTRO001 ¹	20	Pt-Co (APHA), Max
Specific gravity (20°C)	ASTRO002 ¹	0,92 – 0,98	g/mL
Moisture	ASTRO003 ¹	0,2	% in weight, max

Technical Performances and properties

Properties	Standard	ASTROBIO™ PA				Units
Chemical composition	-	Blend of aliphatic esters and alcohols ²				-
Solvency power: HSP's	Calculated	δ_d	δ_p	δ_h	δ_t	Mpa ^{1/2}
		16,32	5,54	11,84	21,16	
Boiling range	-	110 - 172				°C
Flashpoint	EN 3679	40				°C
Evaporation rate	Calculated	0,22				RER (BuOAc=1)
Vapor pressure (20° C)	Calculated	0,63				kPa
Dynamic Viscosity (25° C)	ASTRO004 ¹	≈ 2,56				mPa.s

Environmental characteristics and Biodegradability

Properties	Standard/Reference	ASTROBIO™ PA	Units
Ready Biodegradability ³	OECD 301 series	> 85	% w/w in 10 days window
Ultimate biodegradability ⁴	-	100	% w/w at 67 days
Water hazard	WGK Germany	1	Class
VOC content	Directive 2010/75/UE and Swiss Regulation (814.018)	100	% w/w
	Directive 2004/42/CE	100	% w/w

This product has to be subjected from any industrial or professional user to careful tests, in order to evaluate his effectiveness for expected applications. Our company waives any responsibility in case of any improper usage of this product.

Manufactured in Italy (European Union).
ASTROBIO™ is a trade mark of Liberty Chemicals s.r.l.
 (Italy)

Issued by: ASTROBIO™ division | Liberty Chemicals s.r.l. (Italy).

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Footnotes:

1. Analysis conducted according to an internal standard protocol.
2. All ingredient are REACH registered.
3. Product has not been tested itself to access ready biodegradability, but all raw materials used during manufacture are classified as readily or inherently biodegradable according to one or more of the following OECD guidelines: OECD 301 A, B, C, D, E, F or OECD 302 A, B, C, D.
4. Product has not been tested itself to access ultimate biodegradability, but all raw materials used during manufacture are completely (100%) biodegradable in 67 days or less.