

# ASTROBIO™ K4

## Bio solvent blend, replacement of methyl amyl ketone (MAK)

### Technical Data Sheet

**Product name:** ASTROBIO™ K4  
**Manufacturer:** Liberty Chemicals s.r.l. (Italy)  
**Contact:** [info@astrobiosolvent.com](mailto:info@astrobiosolvent.com)

#### Area of Use:

Bio-based solvent blend replacement of MAK in many industrial applications. ASTROBIO™ K4 has a high solvent activity, slow evaporation rate, low density and high boiling point. It's used to formulate coatings, adhesives, paints and inks based on acrylics, epoxies, alkydics, vinylics, polyesters, melamines, urethanes, phenolics and ABS resins. It has a great solvency power for rosins, nitrocellulose, modified cellulose and some kinds of nylons as well. It's also used for formulating sustainable paint strippers, machinery, industrial and household detergents. ASTROBIO™ K4 can be used in auto refinishing, formulation of herbicides and to formulate industrial coatings. It's also used for cold degreasing in industrial settings to remove different kinds of resins and soils.

#### Technical Benefits:

- **20%-30% more effective in viscosity reduction than MAK.**
- Very efficient for paint, coating and inks formulations.
- Better cleaning power and reduced solvent usage than MAK.
- **Outstanding properties in formulation.**
- Dries completely and leaves no residue.
- 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	37° C	EN 3679
RER (BuOAc=1)	0,29	Calculated
Vap. pressure (20°C)	0,69 kPa	Calculated
Boiling range	110° - 151° C	-

#### Solvency power:

HSP's	δd	δp	δh	δt	Calculated
	16,36	6,17	12,56	21,77	

#### 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.**

#### LIBERTY CHEMICALS s.r.l.

### Guaranteed Specifications

Properties	Standard	ASTROBIO™ K4	Units
Appearance	Visual	Clear colourless liquid	-
Colour	ASTRO001 <sup>1</sup>	20	Pt-Co (APHA), Max
Specific gravity (20°C)	ASTRO002 <sup>1</sup>	0,92 – 0,98	g/mL
Moisture	ASTRO003 <sup>1</sup>	0,3	% in weight, max

### Technical Performances and properties

Properties	Standard	ASTROBIO™ K4				Units
Chemical composition	-	Blend of organic acids esters and alcohols <sup>2</sup>				-
Solvency power: HSP's	Calculated	δd	δp	δh	δt	Mpa <sup>1/2</sup>
		16,36	6,17	12,56	21,77	
Boiling range	-	110 - 151				°C
Flashpoint	EN 3679	37				°C
Evaporation rate	Calculated	0,29				RER (BuOAc=1)
Vapor pressure (20° C)	Calculated	0,69				kPa
Dynamic Viscosity (25° C)	ASTRO004 <sup>1</sup>	≈ 2,98				mPa.s

### Environmental characteristics and Biodegradability

Properties	Standard/Reference	ASTROBIO™ K4	Units
Ready Biodegradability <sup>3</sup>	OECD 301 series	> 85	% w/w in 10 days window
Ultimate biodegradability <sup>4</sup>	-	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 biodegradable according to one or several of the following OECD guidelines: OECD 301 A, B, C, D, E, F.
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.