

# ASTROBIO™ NS 3

## Bio solvent blend, replacement of **NMP, NEP and DMF** Technical Data Sheet

**Product name:** ASTROBIO™ NS 3  
**Manufacturer:** Liberty Chemicals s.r.l. (Italy)  
**Contact:** [info@astrobiosolvent.com](mailto:info@astrobiosolvent.com)

### Area of Use:

Bio-solvent replacement of N-methyl pyrrolidone (NMP), N-ethyl pyrrolidone (NEP) and dimethyl formamide (DMF) in many industrial application. ASTROBIO™ NS 3 has high solvent activity, slow evaporation rate and high boiling point. It's mainly used to formulate ecological and heavy duty paint strippers and graffiti removers. It can be used also to formulate coatings, adhesives and inks based on acrylics, epoxies, alkydics, vinylics, polyesters, melamines, urethanes, phenolics and ABS resins. It has a great solvency power for rosins, nitrocellulose, cellulose acetates, some kinds of halogenated polymers (PVDC, PVDF), polystyrenes, PES, PAS, PAI and PEI polymers as well. **Very effective as cleaner and degreaser in industrial settings** (e.g. electronics industry). **ASTROBIO™ NS 3 it's used also in photoresist stripping, formulation of electronics cleaner, pesticides and crop protection products.**

### Technical Benefits:

- Very efficient for paints stripping and graffiti removers formulations.
- **Better cleaning power and reduced solvent usage than NMP, NEP and DMF.**
- Outstanding properties for electronics industry.
- **Ideal for the formulation of pesticides and crop protection products.**
- 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
204Kg	1020Kg	≥ 10MT
net weight	net weight	net weight



### Key Features:

#### Bio-based solvent according to EN 16575

Flashpoint	99° C	EN 3679
RER (BuOAc=1)	0,001	Calculated
Vap. pressure (20°C)	0,05 kPa	Calculated
Boiling range	189° - 291° C	-

### Solvency power:

HSP's	δd	δp	δh	δt	Calculated
	17,53	11,51	8,63	23,30	

### 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.
- Safer than NMP, NEP or DMF due to its hazard statements, GHS and CLP classification.

### LIBERTY CHEMICALS s.r.l.

### Guaranteed Specifications

Properties	Standard	ASTROBIO™ NS 3	Units
Appearance	Visual	Clear yellowish liquid	-
Colour	ASTRO001 <sup>1</sup>	400	Pt-Co (APHA), Max
Specific gravity (20°C)	ASTRO002 <sup>1</sup>	0,99 – 1,05	g/mL
Moisture	ASTRO003 <sup>1</sup>	0,5	% in weight, max

### Technical Performances and properties

Properties	Standard	ASTROBIO™ NS 3				Units
Chemical composition	-	Blend of aliphatic amides and alkyl sulfoxides <sup>2</sup>				-
Solvency power: HSP's	Calculated	δd	δp	δh	δt	Mpa <sup>1/2</sup>
		17,53	11,51	8,63	23,30	
Boiling range	-	189 - 291				°C
Flashpoint	EN 3679	99				°C
Evaporation rate	Calculated	0,001				RER (BuOAc=1)
Vapor pressure (20° C)	Calculated	0,05				kPa
Dynamic Viscosity (25° C)	ASTRO004 <sup>1</sup>	≈ 2,75				mPa.s

### Environmental characteristics and Biodegradability

Properties	Standard/Reference	ASTROBIO™ NS 3	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)	70	% w/w
	Directive 2004/42/CE	70	% 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.