Revision n. 3, issued on 08th April 2021

ASTROBIO™ DS

Bio solvent blend, replacement of dibasic esters (DBE)

Technical Data Sheet

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

Area of Use:

Sustainable bio-solvent replacement of dibasic esters (DBE) in many industrial applications. It has a great solvency power for acrylics, polyesters, epoxies, vinylics, phenolics, isocyanates, melamines, alkydics, polysulfones, MDI and furan resins. It's used to formulate coatings and inks based on those resins as well. Very effectives in dissolving nitrocellulose, cellulose acetates, wood rosins and some kinds of chlorinated and fluorinated polymers. It's used for cold degreasing in industrial settings to remove different kinds of resins and soils. **ASTROBIO™ DS** is used as a low VOC solvent in leather refinishing, to formulate sustainble paint strippers and in coil coating industry. It's also a great choice to formulate industrial and household detergents. If needed, **ASTROBIO™ DS** evaporation rate can be increased when properly blended with **ASTROBIO™ K80.**

Technical Benefits:

- Very effective as cleaner and degreaser in industrial settings.
- **Outstanding properties in formulation of leather refinishing coatings.**
- Reduced evaporation losses.
- Easy and inexpensive to distill or recycle.
- **Strong solvency power for different resins, polymers grade and soils.**
- **Custom blend available for maximum performances**.
- High loading capacity.

Available Packaging:

Drums	IBC	Bulk
214Kg	1070Kg	≥ 10MT
net weight	net weight	net weight

Key Features:

Bio-based solvent according to EN 16575

Flashpoint	79° C	EN 3679
RER (BuOAc=1)	0,003	Calculated
Vap. pressure (20°C)	0,34 kPa	Calculated
Boiling range	151° - 242° C	-

Solvency power:

HSP's	δd	δp	δh	δt	Calculated
	17,89	10,90	9,01	23,82	

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.
- **Non flammable.**

LIBERTY CHEMICALS s.r.l.
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Codice Fiscale/P. IVA 02253660126 - R.E.A. Varese 241902 - Reg. Imp. 02253660126 - Capitale Sociale € 10.920,00 int. vers.

Guaranteed Specifications

Properties	Standard	ASTROBIO™ DS	Units
Appearence	Visual	Clear colourless liquid	-
Colour	ASTRO001[1]	30	Pt-Co (APHA), Max
Specific gravity (20°C)	ASTRO002[1]	1,04 – 1,10	g/mL
Moisture	ASTRO003[1]	0,2	% in weight, max

Technical Performances and properties

Properties	Standard	ASTROBIO™ DS				Units
Chemical composition	-	Blend of organic acids esters[2]				-
Solvency power: HSP's	Calculated	δd	δp	δh	δt	Mpa$^{1/2}$
		17,89	10,90	9,01	23,82	
Boiling range	-	151 - 246				°C
Flashpoint	EN 3679	79				°C
Evaporation rate	Calculated	0,003				RER (BuOAc=1)
Vapor pressure (20° C)	Calculated	0,34				kPa
Dynamic Viscosity (25° C)	ASTRO004[1]	≈ 2,28				mPa.s

Environmental characteristics and Biodegradabilty

Properties	Standard/Reference	ASTROBIO™ DS	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)	54,87	% 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 (Europen Union).
ASTROBIO™ is a trade mark of Liberty Chemicals s.r.l. (Italy)

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

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.