

## Enabling optimal biopesticide efficacy



- ▶ High performance solvent for biopesticide plant extract formulations
- ▶ Safe for people, plants and the planet
- ▶ Biobased and readily biodegradable
- ▶ Improves blooming in a tank mix
- ▶ Promotes uptake by plant tissue or insect cuticle

### Eco-solvent enables faster biopesticide launches

PURASOLV BL is an OMRI Listed® ready-to-use eco-solvent for biopesticide formulations. It allows formulators to avoid time-consuming paperwork and unseen hurdles during the organic certification process.

New biological pesticides are being developed with enhanced activity, strong environmental credentials and the highest safety standards. When creating a new biopesticide, optimal performance is critical. Special attention should be paid to the use of formulation ingredients that improve the stability and efficacy of the biopesticide product. Similarly, it is essential that cost-competitiveness is not compromised by the use of organic ingredients. PURASOLV BL addresses all these concerns and meets formulators' diverse requirements.

### Regulatory

PURASOLV is registered under the most stringent global legislations: REACH, EPA and OMRI.

### Sustainability credentials

- Eco-solvent: suitable for biopesticide formulations
- Biobased content: 42.9%
- Readily biodegradable
- Environmentally-friendly: not harmful to the environment (no eco-toxicity)



Corbion holds a platinum sustainability rating in its EcoVadis CSR assessment.



PURASOLV butyl lactate esters are premium solvents that can be used as bio-based and non-toxic replacements for potentially unsafe solvents. Use PURASOLV cuts air, water and soil contamination and pollution. As such, it plays a part in protecting humans and wildlife from the effects of hazardous chemicals.

Physical properties	Viscosity	Flash Point	Evaporation Rate	Surface Tension	Melting point	Hansen Solubility Parameters (J/cm <sup>3</sup> ) <sup>1/2</sup>			Solubility in water	Vapor Pressure	% renewable carbon content
	mPa.s (20°C)	°C/°F	n-BuAc=1	mN/m (20°C)	°C	δ <sub>d</sub>	δ <sub>p</sub>	δ <sub>n</sub>	w/w% (20°C)	mbar (20°C)	
PURASOLV BL	3.9	79/174	0.03	29.2 (at 20°C)	-19.9	16.6	6.2	11.6	4.5	0.4	42.9

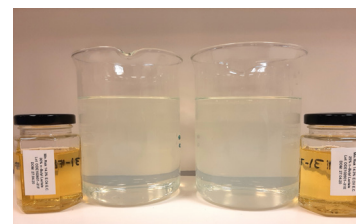
## Performance from Formulation to the Field

### in Formulation: improved stability



#### Compatibility with neem oil and essential oils

Butyl lactate offers effective solvency capabilities, even with lipophilic ingredients such as neem oil and essential oils. This improves both formulation stability and shelf life. The recommended dosage is 25 wt% PURASOLV BL in a biopesticide formulation, but it can be used at ratios of up to 40 wt% for enhanced formulation stability.



Picture and composition of US Min Risk Essential Oil EC-formulation in water.

Compound	Range [wt%]
PURASOLV BL	30.0
Organic Peppermint Oil	6.0
Organic Cinnamon Oil	4.0
Organic Orange Oil	4.0
Organic Rosemary Oil	0.3
Glycerine 99+% Organic	25.7
POE-36 ethoxylated Castor Oil (Toximul 8240)	30.0

### for Farmers: easy mixing in tank



#### Rapid emulsification through blooming performance

When added to water, PURASOLV BL improves blooming. This facilitates a homogeneous tank mix. As part of an optimized system, butyl lactate also improves and stabilizes the emulsion in the tank mix, making your pesticide products both consistent and user-friendly.

PURASOLV lactate esters are safe and non-toxic, as demonstrated by their exclusion from the ECHA's list of SVHC (Substances of Very High Concern) or ChemSec's SIN (Substitute it Now) list. Unlike hazardous chemicals like NMP, DMAc, DMF, xylene, toluene, isophorone and chlorinated solvents, they are safe to store, transport, handle and use, and therefore are safe for farmers that handle and apply them.



Scan the QR code to see the video of blooming

### in the Field: enhanced performance



#### Microemulsions for enhanced uptake of active ingredients

PURASOLV BL is non-phytotoxic and has minimal negative impact on plants and the environment. Adding PURASOLV BL in formulation slightly reduces the product's surface tension. This improves the wetting of the leaves and ultimately the field performance of your crop protection product. Moreover, PURASOLV BL is especially suitable for the creation of microemulsions. Microdroplets can enhance active ingredient uptake when sprayed onto leaves and insect cuticles.



#### Request your free sample

Samples and detailed usage instructions, delivered right to your doorstep.  
[corbion.com/PURASOLV](http://corbion.com/PURASOLV)



#### Sample Support

With R&D facilities on every continent, we are always close by to help you with your application development.  
[corbion.com/contact](http://corbion.com/contact)

Interested in solutions for biobased chemicals? [Go to corbion.com/BiobasedChemicals](http://Go to corbion.com/BiobasedChemicals)

For chemical industry, Corbion offers Lactic Acid, Lactide and Lactic Acid derivatives like lactate esters, mineral and metal salts. Corbion's products are highly cost-effective, safe for human beings and readily biodegradable, enabling manufacturers to develop environmentally safer and more sustainable formulations and processes.