

ETHYL and n-BUTYL LACTATES

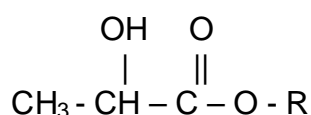
Ethyl and n-Butyl lactates are natural lactic acid esters. Lactic acid is obtained by fermentation and lactates by esterification of lactic acid.

Isopropyl, n-propyl and 2-ethylhexyl esters will be available in the near future.

Lactic esters are excellent biodegradable solvents, considered toxicologically and environmentally safe.

In many applications, they can substitute toxic solvents, thanks to their high solvency power.

Ester General Formula



R = Ethyl- CAS N° 687

R = n-Butyl- CAS N° 34451

Chemical name : Hydroxypropionate

Physical Chemical Properties	Ethyl lactate	n-Butyl Lactate
Molecular Weight	118	146
Boiling point (°C at 1 013 mbars)	154	189
Melting point (°C)	- 3	- 15
Flash point (°C closed cup)	53	79
Vapor pressure (Pa at 20°C)	180	30
Density (at 20°C)	1,03	0,98
Solubility in Water (% w/w)	Complete	4,5
Relative evaporation rate (nBuAc=1)	0,22	0,035

Toxicology and Environmental data

Lactates have weak toxicological and environmental properties. They are perfect alternative solvents to replace toxic glycol ethers.

They are readily biodegradable

Labelling **Ethyl lactate Xi ; R37-41** **VME not available**
n-Butyl lactate Xi ; R36/38 VME : 5 ppm

Applications

Paints and coatings

In formulation of alkyd, epoxy, vinyl, acrylic, nitro cellulosic, polyester resins..., lactates are good solvents or cosolvents in particular, in waterborne and high solid systems.

The similarity of ethylene glycol ethers, their acetates, and lactates, allows substitution of ethylene glycol ethers by lactates.

Inks

In formulation of liquid inks (flexographic, gravure; UV, screen inks) and cleaning of printing equipment and screens, lactates are largely used.

Cleaning and degreasing applications

Removal of flux residues, precision cleaning (electronics and micro-electronics industries).

Metal degreasing

Stripping (paints, photoresists...)

Agrochemicals

Synthesis of chiral compounds

Pharmaceutical and cosmetic applications

Antiacne preparations...

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Ethyl and n-butyl lactates en anglais

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