

CYTEC

GRAPHIC ARTS



EBECRYL® LEO Resins

UV curable Resins with
Low Extractables and Odour
for Food Packaging Printing

Europe, Middle East and Africa

EBECRYL® LEO Resins UV/EB Curable Resins for inks and overprint varnishes for Food Packaging

The world leader in radiation-curable resins for coatings and graphic arts applications, Cytec now offers a new family of resins for UV/EB curable inks and overprint varnishes (OPVs) for food packaging – products specifically formulated to provide a significant reduction in odour release and potential migration compared to previously available resins.

This new family of EBECRYL LEO resins (Low Extractables and Odour) broadens the line of EBECRYL resins and offers ink manufacturers valuable new options for *producing flexographic inks, lithographic inks and OPVs for food packaging* – particularly those intended for use with human foods, pet foods, pharmaceuticals and similar products.

The EBECRYL LEO resins have been designed to allow ink formulators to develop inks that meet the ever more demanding European regulations for food packaging. This means they have a low odour with minimal taste transfer and they do not contain certain components that should be avoided in inks and OPVs for food packaging. The EBECRYL LEO resins allow ink and OPV makers to design products with very low migration potential that are safe for food packaging. At the same time they have the product characteristics needed to make highly performant inks and OPVs. Each of the products in the range has been developed to provide performance characteristics similar to an existing EBECRYL resin – simplifying the process of selecting a new resin for specific ink or varnish formulation. The resins enhance the ability to achieve high gloss and excellent print quality on a variety of packaging materials, such as labels, lidding films and foils, wrappers, beverage cartons and artificial sausage casings.

Like other EBECRYL resins the EBECRYL LEO resins offer significant processing advantages as well. The resins allow ink

Product	Chemical description	Viscosity mPa.s (25°C)
EBECRYL LEO 10501	Trifunctional diluting acrylate	80
EBECRYL LEO 10502	Polymeric tetrafunctional acrylate	170
EBECRYL LEO 10551	Amine modified polyether acrylate	75
EBECRYL LEO 10552	Amine modified polyether acrylate	450
new EBECRYL LEO 10553	Amine modified polymeric tetrafunctional acrylate	220
EBECRYL LEO 10601	Modified epoxy acrylate	200000
new EBECRYL LEO 10801	Hexafunctional polyester acrylate	48000

manufacturers to formulate inks and OPVs that cure instantly when exposed to ultraviolet (UV) light or electron beams (EB). As a result, drying times are eliminated – speeding up throughput in the printing process, and reducing handling costs.

Inks and OPVs made with the EBECRYL LEO resins are environmentally-friendly too, because no solvents or other volatile organic compounds are released during the curing process and less energy is consumed than with conventional printing.

Specific performance characteristics for each of the products are highlighted in the table.

Colour Gardner	Density g/ml	Acid value mg KOH/g	Epoxy value %	Mol. Weight g/mol	Funct.	Target applications	Key features and performance
200 Apha	1.10	0,5	n. a.	470	3	- flexographic inks - lithographic inks - OPVs	- EBECRYL LEO specification for food packaging - high cure response - good flexibility
2	1.15	5	n. a.	750	4	- flexographic inks - lithographic inks - OPVs	- EBECRYL LEO specification for food packaging - high cure response - low viscosity - good flexibility - high gloss
2	1.09	n. a.	n. a.	500	2.5	- flexographic inks - OPVs	- EBECRYL LEO specification for food packaging - very high cure response - low viscosity - good flexibility - high gloss
2	1.12	n. a.	n. a.	1000	3.5	- flexographic inks - OPVs	- EBECRYL LEO specification for food packaging - very high cure response - good flexibility - high gloss
2	1.12	n. a.	n. a.	780	3.4	- flexographic inks - OPVs	- EBECRYL LEO specification for food packaging - good flexibility - amine modified resulting in very high reactivity
3	1.14	1	0.05	500	2	- flexographic inks - lithographic inks - OPVs	- EBECRYL LEO specification for food packaging - very high cure response - excellent solvent resistance - high gloss - good pigment wetting
dark	1.08	15	n. a.	1500	6	- flexographic inks - lithographic inks	- EBECRYL LEO specification for food packaging - high reactivity - very good pigment wetting - very good lithographic behaviour in UV offset inks

Key to the table Funct.: functionality expressed as number of acrylic double bonds per molecule; n.a.: not applicable

For detailed technical information, please feel free to contact a Cytec representative in your area, or go to www.cytec.com where additional information about our entire line of RADCURE®* resins for graphic arts applications can be found including our EBECRYL* resins, UVACURE®* resins and ADDITOL®* photoinitiators and other additives.



- * ADDITOL photoinitiators and other additives
- * EBECRYL UV curable resins and diluting oligomers
- * UVACURE cationic UV curable resins
- * RADCURE energy curable resins

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