ADDAPT
Chemicals BV

for tomorrow's
Technology

ADDAPTOL™ DB

Coalescing Agent
Oxygenated Solvent
Non-VOC

for tomorrow's
World

Typical chemical & physical properties

ADDAPTOL™ DB is a non-VOC oxygenated solvent for use as a coalescing agent in water-borne systems and tail solvent in solvent-borne systems. It is a proprietary mixture of branched esters of dibasic acids (all components are EINECS registered).

Physical properties	Values
Appearance	Clear liquid
Odour	Typical
Colour (Pt-Co)	max. 100
Density at 25 °C	0.93 - 1.01 g/cm^3
Viscosity at 25 °C *(Brookfield #1, 50 rpm)*	< 50 mPa·s
Vapour pressure (at 20 °C)	< 0.01 kPa
Boiling point	> 275 °C
Freezing point	-55 °C

Applications

ADDAPTOL™ DB is used as a coalescing agent in water-based coatings, floor lacquers, concrete coatings and other coatings where high performance is needed.

Functions	Applications
Solvent in industrial cleaners	Ink cleaners Graffiti removers Paint strippers Hard surface cleaners Floor wax strippers Carpet shampoos
Coalescing agent in water-borne coatings	Industrial coatings Coatings for constructions industry Decorative coatings
Solvent in polymer applications	Tail solvent Oil field chemicals Unsaturated polyester resin & PU cleaners

Benefits of ADDAPTOL™ DB

ADDAPTOL™ DB is biodegradable and has a high thermal, hydrolytic and pH-stability. Compared with 2,2,4-Trimethylpentanediol mono-isobutyrate, ADDAPTOL™ DB shows the following improved characteristics in waterborne coatings:

- Low odour;
- Improved wet scrub resistance;
- Lowering of MFFT;
- Low dosage;
- Extended open time;
- Better water resistance of the dried coating;
- Better scrub resistance due to more complete coalescence of hard polymers and less affinity to water than other coalescing agents.

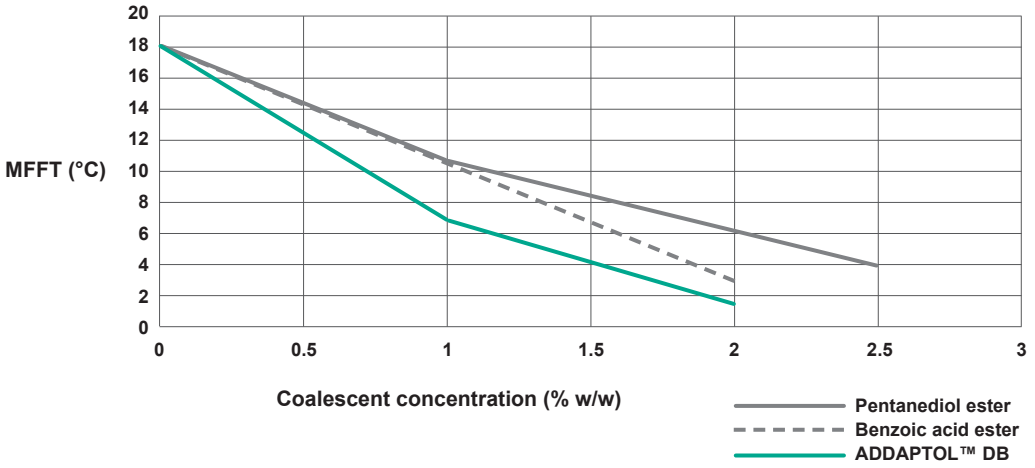
In solvent-borne systems ADDAPTOL™ DB has the following advantages:

- Excellent tail solvent;
- Improved levelling and pinhole resistance.

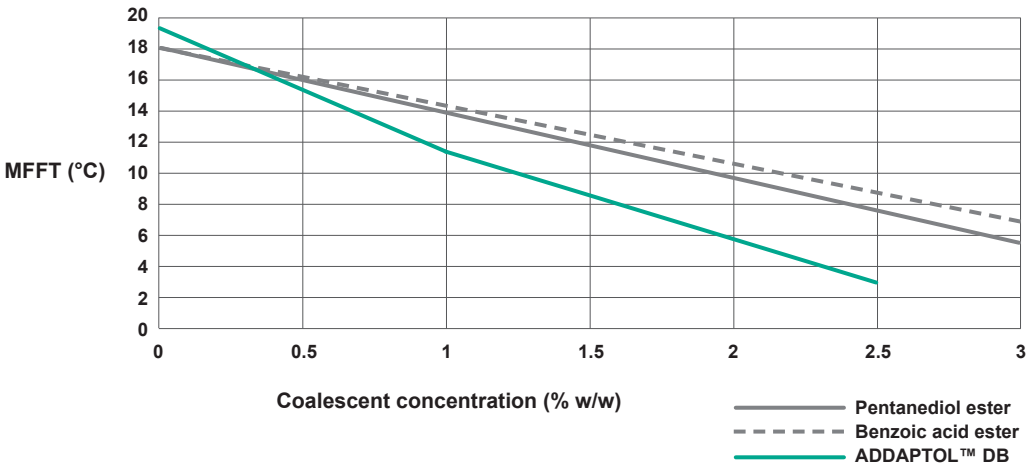
Solvents that can be replaced by ADDAPTOL™ DB

- Ethyl ethoxy propionate
- Benzoic acid esters
- Pentanediol esters
- Butyldiglycol acetate
- Propylene glycol methyl ether acetate
- Terpenes
- High-boiling glycol ethers
- High-boiling ketones
- High-boiling aromatics
- Isophorone

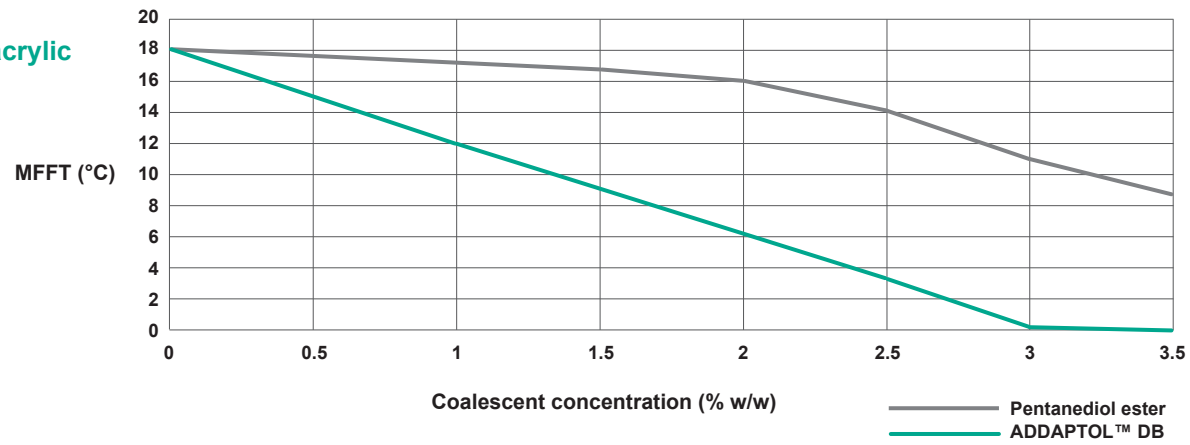
MFFT curve for typical VA polymer



MFFT curve for typical pure acrylic polymer



MFFT curve for typical styrene/acrylic co-polymer



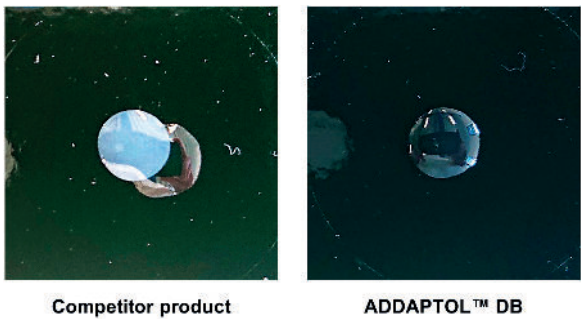
Coalescing properties

Coalescing effect of ADDAPTOL™ DB at various concentrations in a styrene-acrylic copolymer binder with an MFFT of 22 °C.

The dosage of ADDAPTOL™ DB is generally lower compared to other conventional coalescing agents. Overdosing ADDAPTOL™ DB could give coating defects, like cratering and surface abnormalities.

Increased water-resistance

This water droplet test demonstrates the increased initial water-resistance of the coating induced by ADDAPTOL™ DB. This test is performed with a styrene-acrylic copolymer dispersion with an MFFT of 35 °C.



The coating with ADDAPTOL™ DB shows good water resistance, while the other coating shows a plasticising effect cause by water penetration.

Guidance on use

- Generally, less ADDAPTOL™ DB is needed compared to conventional coalescing agents.
- ADDAPTOL™ DB must be well incorporated into the binder dispersion. It is recommended to add ADDAPTOL™ DB directly after the addition of the binder.
- Mechanical mixing is highly recommended; 500 – 1000 RPM for at least 10 minutes.
- To check if ADDAPTOL™ DB is well dispersed, submerge a metal spatula (palette knife) in the liquid and inspect the liquid surface on the spatula. If there are no craters or other abnormalities visible, ADDAPTOL™ DB is well dispersed. Otherwise, proceed to mix for another couple of minutes.

CONTACT INFORMATION

ADDAPT Chemicals B.V.

Speltdijk 1
5704 RJ Helmond
The Netherlands

Tel.: +31 (0)492 59 75 75
Fax: +31 (0)492 55 29 55
E-mail: info@addapt-chem.com
http://www.addapt-chem.com

Liability

All recommendations for the use of our products, whether given by us in writing, oral, or to be implied from the results of tests carried out by us, are based on the current state of our knowledge. Under no circumstances shall Seller be liable for incidental, consequential or indirect damage for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with product(s). Seller's sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has/have not been tested for, and is/are therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin or blood is intended, or for uses for which implantations within the human body is intended.