



EASTMAN | agriculture solutions

Looking for an alternative approach to traditional agrochemical solvents?

Eastman's wide range of offerings can help you formulate for the future.

Product stewardship concerns and a shifting regulatory landscape are leading formulators to seek alternatives to traditional solvents. Nobody wants to develop new crop protection products that could require expensive reformulation. Adding to the mix, once-popular solutions may no longer be as efficient due to product complexity, making it harder than ever to select the right solvent for your needs.

Eastman can help.

Our broad and diverse solvent portfolio provides numerous effective solutions for insecticides, herbicides, and fungicides that mix easily, apply fast and stay where they're needed. Most are non-VOC solutions with high flash points, making them more friendly for formulators, mixers, farmers and the environment. Many have EPA food contact clearance.

We produce solvents on multiple continents, offer a global supply chain, and have invested 70 years in understanding what makes a good solvent. We're now focusing that expertise on the agricultural market. Our technical support and innovative collaboration can help you adapt to changing markets and regulatory conditions. We look forward to helping you find the right solution for your formulation needs.

Why Eastman?

- Unique breadth of chemistries and process capabilities
- Adaptive innovation
- Reliable partner
- Committed to the industry



Table 1. Products and physical properties

Product family	Product	Chemical name	CAS	Boiling point @ 760 mm, °C	Flash point, °C	Vapor pressure @ 20°, torr	Specific gravity, 20°C	Melting point, °C
Glycol ethers and alcohols	2-Ethylhexanol	—	104-76-7	182–186	73	0.05	0.833	–70
	EP solvent	2-Propoxyethanol, ethylene glycol monopropyl ether	2807-30-9	149.5–153	49	1.3	0.913	–90
	EB solvent	2-Butoxyethanol, ethylene glycol monobutyl ether	111-76-2	169–172	62	0.6	0.902	–75
	DE solvent	2-(Ethoxyethoxy)ethanol, diethylene glycol monoethyl ether	111-90-0	198–204	91	0.095	0.990	–90
	DB solvent	2-(Butoxyethoxy)ethanol, diethylene glycol monobutyl ether	112-34-5	230–235	111	0.02	0.955	–76
	Eastman Texanol™ ester alcohol	2, 2, 4-Trimethyl-1,3-pentanediol monoisobutyrate	25265-77-4	255–261.5	122	0.01	0.950	–50
Esters	IBIB	Isobutyl isobutyrate	97-85-8	144–151	40	3.2	0.855	–80
	EEP solvent	Ethyl 3-ethoxypropionate	763-69-9	165–172	58	1.5 @ 25°C	0.950	< –50
	2-Ethylhexyl acetate	—	103-09-3	199–205	71	0.4	0.873	–93
	EB acetate	2-Butoxyethyl acetate	112-07-2	186–194	71	0.29	0.941	–64
	Eastman Triacetin	Glyceryl triacetate	102-76-1	258	151	< 0.0025	1.16	3
	Eastman Zendex™ DB-120 agricultural solvent	Dipropylene glycol dibenzoate	27138-31-4	347	182	< 0.0001	1.12	–30
Ketones	MAK	Methyl <i>n</i> -amyl ketone, 2-heptanone	110-43-0	147–153.5	39	2.1	0.818	–33
	DIBK	Diisobutyl ketone	108-83-8	163–176	49	1.4	0.811	–42



Table 2. Solubility data

Product	Solubility in water, 20°C, wt%	Solubility, water in, 20°C, wt%	Hansen solubility parameters, 25°C, MPa ^{1/2}			
			Total	Nonpolar	Polar	Hydrogen bonding
2-Ethylhexanol	0.1	2.6	20.3	16.0	3.3	11.9
EP solvent	Complete	Complete	22.7	16.2	8.6	13.5
EB solvent	Complete	Complete	20.9	16.0	5.1	12.3
DE solvent	Complete	Complete	19.3	16.2	5.1	9.2
DB solvent	Complete	Complete	20.5	16.0	7.0	10.6
Eastman Texanol ester alcohol	< 0.1	0.9	19.0	15.1	6.1	9.8
Isobutyl isobutyrate (IBIB)	< 0.1	< 0.2	16.6	15.1	2.9	5.9
EEP solvent	2.9	2.2	18.6	16.2	3.3	8.8
2-Ethylhexyl acetate	0.03	0.6	16.8	15.8	2.9	5.1
EB acetate	1.1	1.6	18.2	15.3	4.5	8.8
Eastman Triacetin	7.2 @ 25°C	—	19.4	16.5	4.5	9.1
Eastman Zendex DB-120	Negligible	—	19.5	18.0	6.2	3.9
MAK	0.5	1.3	17.6	16.2	5.7	4.1
DIBK	0.05	0.7	16.4	15.5	3.7	4.1

Figure 1. Eastman agriculture solvents' total Hansen solubility parameters

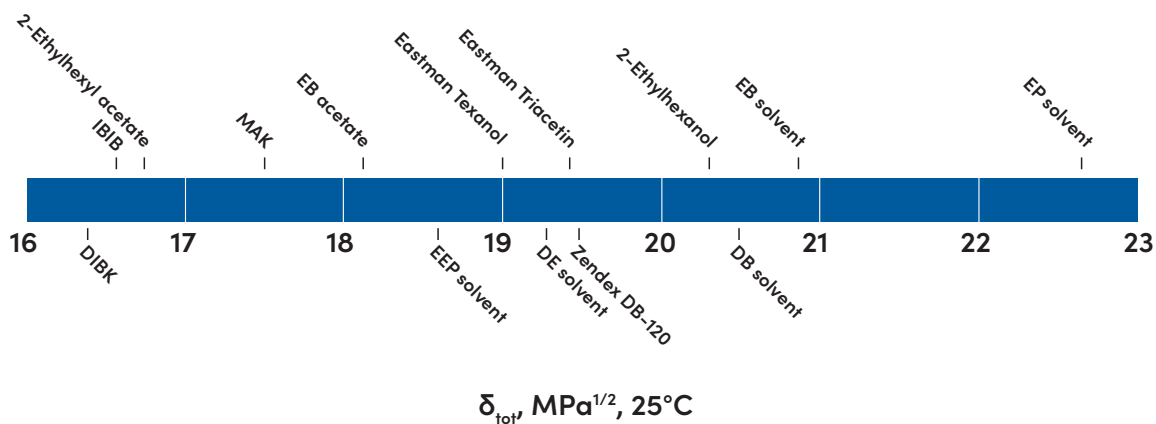


Table 3. EPA approvals

Product	CAS	EPA approvals ^a			
		180.910	180.920	180.930	Nonfood
2-Ethylhexanol	104-76-7	✓ ^b	✓	✓ ^b	✓
EP solvent	2807-30-9				✓
EB solvent	111-76-2		✓		✓
DE solvent	111-90-0		✓		✓
DB solvent	112-34-5		✓		✓
Eastman Texanol ester alcohol	25265-77-4	✓			✓
Isobutyl isobutyrate (IBIB)	97-85-8	✓			✓
EEP solvent	763-69-9				✓
2-Ethylhexyl acetate	103-09-3		✓		✓
EB acetate	112-07-2				✓
Eastman Triacetin	102-76-1	✓	✓	✓	✓
Eastman Zendex DB-120	27138-31-4				✓
MAK	110-43-0	✓		✓	✓
DIBK	108-83-8				✓

^aCode of Federal Regulations, Title 40 — Protection of the Environment: Chapter 1 — Environmental Protection Agency, Subchapter E—Pesticide Programs, Part 180 — Tolerances and Exemptions for Pesticide Chemical Residues in Food (<http://www.ecfr.gov>)

^bNot more than 10% of pesticide

Formulating is tough enough. Don't choose a solvent that complicates things. The solution may be simpler than you think.
To learn more about Eastman agrochemical solvents, contact your Eastman representative or visit eastman.com/agchem.

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