

# Ethylene Amines, Ethanolamines and Glycols

Leading global producer of ethylene oxide derivatives

Nouryon

# Key building blocks for formulations essential to a range of applications

Our chemicals and their derivatives are used as the main ingredients in your formulations across many industries, such as agriculture, personal care, pharmaceuticals, lubricants, oil and gas, textiles, pulp and paper, and paints and coatings.

With production sites in Sweden and China we are one of the largest global producers of ethylene amine, ethanolamine, and glycol. Our proprietary ethylene oxide process enables you to create high yield products while reducing environmental impact and energy consumption.

Ethylene Amines Ethanolamines Glycols







### Enabling you to formulate essential chemicals for diverse applications

		Agrochemicals	Antifreeze	Bleach Activators	Brake Fluids	Chelates	Construction	Electronics	Epoxies	
	AEEA					•		•	•	
	AEP								•	
	BA-20								•	
	BA-505								•	
	BA-1210								•	
	DETA					•			•	
	EDA	•		•		•		•	•	
	PIP-68									
	PIP-ANH									
	TEPA								•	
	TETA								•	
	XA-70								•	
and Glycols	BA-10		•				•			
	DEA	•								
	DEG-Mix						•			
	EO									
	MEA	•								
	MEG		•		•					



### **Ethylene Amines**

#### Aminoethylethanolamine (AEEA)

Linear molecule with primary and secondary amine groups. Colorless liquid, with slightly high viscosity. Used as an intermediate in the fabrication of detergents, fabric softeners, chelates, fuel additives, and coatings.

#### Aminoethylpiperazine (AEP)

Molecule with unique structure, containing one primary, one secondary, and one tertiary amine. Colorless liquid with a broad liquid range. Suitable raw material for a large variety of applications including corrosion inhibitors, urethane catalysts, and epoxy hardeners.

#### Berolamine 20 (BA-20)

Blend of higher polyethylene polyamines and alkanolamines. Used as an intermediate in the manufacture of asphalt additives, in polyamide resins and corrosion inhibitors, and as a cement grinding and flotation agent.

#### Berolamine 505 (BA-505)

Amine blend containing HEP (main constituent), AEP, and AEEA. Commonly used as an intermediate to produce asphalt additives and polyurethane catalysts.

#### Berolamine 1210 (BA-1210)

Blend of higher polyethylene polyamines (isomers of TETA, TEPA, PEHA, and higher) and alkanolamines (AEEA, DEA, Hydroxyethyl DETA, and higher). Used as an intermediate in the manufacture of asphalt additives and as an epoxy curing agent.



#### Diethylenetriamine (DETA)

Aliphatic ethylene amine with two primary amine groups and one secondary. Clear, colorless liquid. Typical applications include chelating agents, wet-strength resins, lubricant oil additives, oilfield chemicals, and polyamides for resins or epoxy curing agents.



#### Ethylenediamine (EDA)

Ethylene amine with the lowest molecular weight. Contains two primary amine groups and appears as a colorless liquid. Highly reactive and versatile molecule, commonly used as an intermediary to produce detergents, paper chemicals, textile auxiliaries, fungicides, and polyamides.

#### Piperazine 68% (PIP-68)

Cyclic ethylene amine with two secondary amine groups and supplied with 68% active content, diluted with water. Commonly used as a raw material for pharmaceuticals, as well as polyamides, gas sweetening, and as an intermediate in polyurethane catalysts.

#### Piperazine Anhydrous (PIP-Anh)

Known as piperazine flakes, a cyclic ethylene amine with two secondary amine groups. Commonly used as a raw material for pharmaceuticals, as well as polyamides, gas sweetening, and as an intermediate in polyurethane catalysts.

#### Tetraethylenepentamine (TEPA)

Yellowish liquid containing linear, branched, and cyclic molecules. Commonly used as an additive in fuel and lubricating oil production, as an epoxy curing agent, or in the manufacture of asphalt additives.

#### Triethylenetetramine (TETA)

Colorless to light-yellow liquid containing linear, branched, and cyclic molecules. Mainly used in the manufacture of fuel oil additives, lubricating oil additives, epoxy curing agents, and in the production of asphalt additives.

#### Higher Amine Blend (XA-70)

Low color heavy amine mixture primarily made with L-TETA and HE-DETA. The application area for this mixture is epoxy curing agents as part of polyamide formulations or adducts, corrosion inhibitors, mineral processing aids (flocculation, water treatment), and various formulations calling for a high amine number and low color impact.



## Ethanolamines and Glycols

#### Berolamine 10 (BA-10)

Mixture containing a high level of triethanolamine (TEA), diethanolamine (DEA), traces of monoethanolamine (MEA) and water. Mainly used as a grinding agent for cement to reduce energy consumption.

#### Diethanolamine (DEA)

Molecule containing one secondary amine and two alcohol groups. Highly viscous liquid with a freezing point of 28 °C. Mainly used for gas sweetening and in the manufacture of lightduty detergents and shampoos. Can also be cyclized to make morpholine.

#### Diethyleneglycol Mixture (DEG-Mix)

Mixture of diethylene glycol, monoethylene glycol (MEG), triethylene glycol (TEG), and water. Main application is as a raw material for grinding aids.

#### Ethylene Oxide (EO)

Important raw material used in large-scale chemical production such as glycols and ethanolamines.

#### Monoethanolamine (MEA)

Small ethanolamine with one primary amine and one alcohol group. Colorless liquid with a mild odor of ammonia. Mainly used in natural and coal gas sweetening, as soap or amides in heavy-duty detergents, and in the production of ethylene amines.

#### Monoethyleneglycol (MEG)

Colorless liquid with low volatility that is extremely hygroscopic. Miscible with water, alcohols, aldehydes, ketones, and esters. Used as a solvent for dyestuff and printing inks, as well as in the production of unsaturated resin, PET fibers, and antifreeze fluids.

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# Nouryon

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