



Heavy Polyamine X

Product Description

Heavy Polyamine X (HPA-X) is a complex mixture of linear, branched, and cyclic ethyleneamines, the structures of which can be deduced from the chemistry of manufacture and a knowledge of the structures present in TETA and TEPA. The components are described as follows:

Polyethylene polyamines (CAS #68131-73-7 or CAS #29320-38-5)

Pentaethylenhexamine mixture (CAS #4067-16-7)

Tetraethylenepentamine mixture (CAS #112-57-2)

Triethylenetetramine mixture (CAS #112-24-3)

Applications

- Oil and fuel additives
- Corrosion inhibitors
- Petroleum production chemicals
- Asphalt additives
- Epoxy curing agents
- Wood treating

Typical Physical Properties Heavy Polyamide X (HPA-X)

The data provided for these properties are typical values, and should not be construed as sales specifications.

Property	SI Units
Molecular Weight, Typical product	275
Boiling Point at 760 mm Hg, °C	(decomposes)
Boiling Point at 50 mm Hg, °C	279 (with decomposition)
Freezing Point, °C	-32
Density, g/ml @ 20°C	1.005
Specific Gravity at 20/20°C	1.007
Viscosity, cp at 20°C	460
Kinematic viscosity, cst @ 40°C	75
Vapor Pressure at 20°C, mm Hg	<0.01
Specific Heat, cal/g °C @ 20°C	0.58
Refractive index @ 20°C	1.513
Dielectric constant @ 23°C	8.72
Electrical conductivity, μ mhos/cm @ 25°C	0.092
Heat of vaporization, @ 760 mm Hg, °C, BTU/lb	99
Heat of combustion, BTU/lb 25°C	-14643
Ionization constants, K1 @ 25°C	0.95 x 10 ⁻⁴
Nitrogen content, wt. %	33-8
Amine value, mg KOH/g	1250

Product Stewardship

The Dow Chemical Company has a fundamental concern for all who make, distribute, and use our family of ethyleneamine products, and the environment we share. This concern is the basis for our Product Stewardship philosophy, by which we assess all available information on our products and then take appropriate steps to protect employee and public health and the environment. In addition, Dow is committed to implementing the guiding principles and management practices of the chemical industry's Responsible Care† initiative, which includes Product Stewardship as one of the Management Practices. As part of our Product Stewardship effort, information such as Material Safety Data Sheets and literature on DOW ethyleneamines are provided to assist customers in handling our ethyleneamine products in a safe and responsible manner. Additional information available for our ethyleneamine customers in two brochures: "Ethyleneamines" and "Ethyleneamines: Safe Storage and Handling."

NOTE: Consult the current Material Safety Data Sheet for safety and handling guidelines for this product.

†Service mark of The American Chemistry Council

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