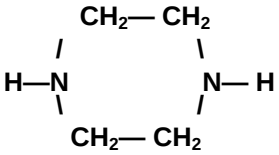
Akzo Nobel
Functional Chemicals AB
Ethylene Amines

Product Information

AkzoNobel
Tomorrow's Answers Today

Piperazine, Anhydrous – PIP-99



Molecular Weight	86.1
CAS Reg. No.	110-85-0
EINECS No.	203-808-3

Synonyms

Diethylene diamine
Hexahydropyrazine
1,4-Diazacyclohexane

Solubility

water	miscible, hygroscopic
ethanol	partially miscible
acetone	partially miscible
ether	partially miscible
benzene	partially miscible
hexane	immiscible

Corrodes copper and its alloys. Reacts violently with acids and chlorinated hydrocarbons. Absorbs carbon dioxide from air. Discolors in contact with air.

Specification

The product conforms to the USP XXII purity specification.

Appearance	white flakes
Piperazine	min. 99.7% as water-free *(GLC)*
Water	max. 1.0% *(KF titr.)*
Color	max. 50 Hazen *(20 % in methanol) (Comparator)*

Test methods are available upon request.

Applications

Starting material for pharmaceuticals for humans and animals.

Intermediate in the manufacture of insecticides, rubber chemicals, polyurethane catalysts, corrosion inhibitors, antioxidants, etc.

Typical Properties

Typical assay based on anhydrous PIP	109-113°C sublimates at heating
Boiling Point	148°C
Density	1110 kg/m^3 at 20°C 880 kg/m^3 at 120°C
Bulk Density	400 kg/ m^3 at 20°C
Viscosity	0.6 mPa·s at 140°C
Flash Point	88°C
Vapor Pressure	20 Pa at 20°C
Odor	mildly ammoniacal

Packaging

Delivered in fiber drums with polyethylene inner bag, containing 50 kg. Shelf life is minimum 12 months when stored under proper conditions, i.e. dry and constant temperature.

2009-05