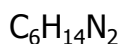


DYTEK[®] 1,2-Diaminocyclohexane (DCH-99)

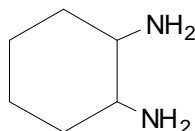
1,2-Diaminocyclohexane



Product Description

DYTEK[®] 1,2-Diaminocyclohexane (DCH-99) is a cyclic aliphatic diamine used in a variety of applications, including urethanes and epoxies.

DYTEK[®] DCH-99 amine is a mixture of cis- and trans-isomers and a clear liquid at room temperature with an amine-like odor.



Applications

- Chelating agent
 - Oilfield
 - Textiles
 - Water treatment
 - Detergents
- Epoxy curing agents
 - Composites
 - Flooring/paving
- Herbicide intermediates
- Polyamide resin
 - Adhesives
 - Coatings
 - Films
 - Plastics
 - Inks
- Polyurethane/Polyurea
 - Extenders
 - Catalysts
- Scale/corrosion inhibitors

Typical Composition (wt %)

1,2-Diaminocyclohexane*	99.0
2-Methylpentamethylenediamine	0.1
Hexamethylenediamine	0.1
Water	0.1
Color (APHA)	15
Appearance	Clear and free of suspended materials

* Approximately 30% cis and 70% trans

General Information

CAS Registry	694-83-7
Molecular Weight	114
Hydrogen Equivalent Weight	28.5
Amine Value (mg KOH/g)	967
Melting Point, °C (°F)	Cis 2 (36) Trans 15 (59)
Boiling Point (760 mm Hg), °C (°F)	191 (376)
Vapor Pressure (mm Hg, 20°C)	0.387
Antoine Equation (p = mm Hg, T = °C)	$\ln(p) = 16.38 - \frac{3821}{200.4 + T}$
Flash Point (Closed Cup), °C (°F)	75 (167)
Specific Gravity, 20 °C (68 °F)	0.94
Refractive Index (cis, n ²⁵ _D)	1.487
Solubility (H ₂ O)	Miscible
Critical Properties (estimated)	
P _{cr} , atm	43.4
V _{cr} , mL	361.5
T _{cr} , °C	409.2
Hansen Solubility Parameters	
δ	11
δ _d	8.6
δ _p	3.5
δ _H	5.8
Volatiles (%)	100
Heat of Vaporization (cal/g @ 185 °C)	106
pH, 5% Aqueous Solution	12
pKa ₁ , 30 °C (86 °F)	9.6
pKa ₂ , 30 °C (86 °F)	6.1
Viscosity (cP, 21 °C, 70 °F)	7.2

For Samples and Information:
INVISTA™ Specialty Intermediates • (800) 231-0998
www.DYTEK.INVISTA.com

This Product Data Sheet contains selected information about a specific INVISTA product, or group of products, and particular uses of the same. It relates only to the identified product and any identified uses, and is based on information available as of the date hereof. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. **THIS PRODUCT DATA SHEET DOES NOT CONTAIN A COMPLETE STATEMENT OF, AND DOES NOT CONSTITUTE A REPRESENTATION, WARRANTY OR GUARANTY WITH REGARD TO, A PRODUCT'S CHARACTERISTICS, USES, QUALITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR THE SUITABILITY, SAFETY, EFFICACY, HAZARDS OR HEALTH EFFECTS OF THE PRODUCT, WHETHER USED SINGULARLY OR IN COMBINATION WITH ANY OTHER PRODUCT, EXCEPT TO THE EXTENT REQUIRED BY THE RELEVANT LAW AND REGULATIONS.** Purchasers and users of the product are responsible for determining that the product is suitable for the intended use and that their workers and the general public are advised of any risks resulting from such use. Nothing contained in this Product Data Sheet shall be construed to modify any of the commercial terms pursuant to which the product was sold by INVISTA including, but not limited to, terms and conditions addressing each party's respective rights and obligations with regard to warranties, remedies and indemnification.

If purchasers and users believe or have reason to believe that the Product Data Sheet or other information provided to them by INVISTA is inaccurate or in any way insufficient for any purpose, they should immediately notify INVISTA of the same, and of the basis for their belief (for example, studies, data, reports of incidents, etc.) so that INVISTA can determine whether modification or supplementation of the Product Data Sheet, or other measures, are appropriate. Failure of purchasers and users to timely provide such notice shall be deemed a waiver by purchasers and users of any and all claims, demands or causes of action, including causes of action based on an alleged failure to warn, for personal injury or damage to the environment or property arising from or attributable to the use of product.

This disclaimer shall be effective to the extent allowed by law. Should any provision be deemed to be ineffective or unenforceable, that provision shall be deemed severed from the disclaimer and the remaining provisions shall continue to have full force and effect.

INVISTA and DYTEK® amines, nitriles and boron products are registered trademarks of INVISTA. Copyright© 2016 INVISTA. All rights reserved.