

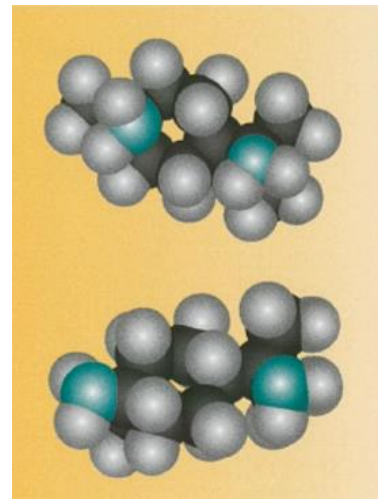


PRIMENE™ MD AMINE

Description

PRIMENE™ MD is a primary alicyclic diamine in which both amino groups are attached to tertiary carbon atoms, as shown on right side.

The material has unique chemical and physical properties, including excellent resistance to oxidation, fluidity and low viscosity over a wide range of temperature, outstanding color stability, and high solubility in petroleum hydrocarbons. These unique properties often extend to the derivatives of this amine. Of particular interest are the salts of organic acids, phenols, complex inorganic acids based on heavy metals, and other compounds that show unusually low solubility in oils and hydrocarbon solvents. Solubilization of such materials by PRIMENE MD permits the use of the salts in applications where effectiveness depends on solubility.



Typical Physical Properties

PRIMENE™ MD

CAS number	80-52 - 4
Formula Weight	170
Pour Point, °C	-30
Freezing Point, °C	-45
Flash Point, °C (Tag open cup)	102
Specific gravity @ 25 °C	0.910
Boiling point, @ 760 mm, °C	210
Viscosity @ 25 °C	19 cSt

These are typical properties, not to be construed as specifications.

Product Specifications

PRIMENE™ MD

Certificate of analysis including each of the following measured parameters is available

Appearance	Clear Liquid
Color, APHA	100 max
Specific Gravity @ 25° C	0.900 – 0.920
Neutral Equivalent	84-94
Water Content (%)	1.00 Max.

Typical Uses

PRIMENE™ MD. An established curing agent for epoxy resins. As such, it has several advantages over other liquid and solid curing agents. Some of these are:

1. Low initial viscosity—permits ready blending with liquid epoxy systems at room temperature
2. Light color before and after cure—prevents color build-up in epoxy systems.
3. Low reaction exotherms—permits the casting of large unfilled products.

PRIMENE™ MD undergoes many typical reactions of primary amines though more forceful reaction conditions may be necessary because of the steric hindrance involved.



PACKAGING OPTIONS

The product is available in 13.6 kilogram steel pails and in 190 kilogram steel drums

Handling Precautions

Before using this product, consult the Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

CAUTION! Keep combustible and/or flammable products and their vapors away from heat, sparks, flames and other sources of ignition including static discharge. Processing or operating at temperatures near or above product flashpoint may pose a fire hazard. Use appropriate grounding and bonding techniques to manage static discharge hazards.

Storage

PRIMENE™ MD is noncorrosive to uncoated and stainless steels, epoxy modified phenolic coatings, and aluminum 1100. It is corrosive to copper, however, and the use of fittings or equipment made of copper or copper alloys should be avoided. The shelf life of PRIMENE™ MD in unopened drums is one year. Note that after ninety days, there may be some color increase. Once the drum is opened, special care must be taken to exclude air from the drum. PRIMENE™ MD reacts readily with carbon dioxide at ambient temperatures to form a white solid ammonium carbamate that is insoluble in the diamine. To prevent contamination of the diamine and its derivatives by this material, care should be taken to exclude air from coming into contact with the amine. This can be done by maintaining a blanket of inert gas, such as nitrogen, over the amine

The product should be stored away from excessive heat sources and all potential ignition sources. If product containers are kept sealed and dry and extreme temperatures are avoided the shelf life of the material is greater than 3 years.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner. It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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