

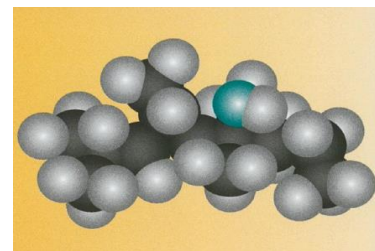


PRIMENE™ 81-R AMINE

Description

PRIMENE™ 81-R is a primary aliphatic amine with highly branched alkyl chains in which the amino nitrogen atom is linked to a tertiary carbon to give the t-alkyl grouping shown above.

It consists of a mixture of isomeric amines in the C12-14 range.



This 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 81-R permits the use of the salts in applications where effectiveness depends on solubility.

Packaging Option

The product is available in 15 kilogram steel pails, 168 kilogram steel drums, and in 20 MT bulk shipments

Typical Physical Properties

PRIMENE™ 81-R

CAS Number	68955-53-3
Freeze/Pour Point °C	<-59
Flash Point °C	82
Boiling Range @ 760 mm, °C	223-240
Viscosity @ -40 °C	109 cSt.
Viscosity @ 38 °C	2.5 cSt.
Basic Strength pK _b @ 25°C	11
Specific gravity @ 25 °C	0.813

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

Product Specifications

PRIMENE™ 81-R

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

Appearance	Clear to pale yellow liquid and free of haze and sediment
Color, Gardner	2 max
Specific Gravity @ 25° C	0.800 – 0.820
Neutral Equivalent	185 – 200
Water Content	0.30 % Max.

Typical Uses

PRIMENE 81-R may be utilized to great advantage in several applications involving petroleum products. Because of its superior solubilizing properties, it may be useful in preparing oil-soluble friction modifiers from insoluble friction-reducing materials. Since it resists oxidation, it enhances the stability of fuels, and the formation of soluble derivatives may be the basis for the maintenance of fluidity and resistance to sludging during storage and heating. The anticorrosive effects of the product is also valuable.



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[™] 81-R (t-alkyl primary amine) may be stored in carbon steel equipment. Other material such as stainless steel may be used. Copper and copper containing alloys should not be used however, since these materials are attacked by PRIMENE[™] 81-R. t-alkyl primary amine. Since carbon steel is generally less expensive than other materials of construction, it is recommended that carbon steel should be used for tank, pump, lines and all auxiliary equipment. PRIMENE[™] 81-R is free of autocatalytic degeneration under storage condition. It is possible, however, to experience an increase in color on prolonged storage. Color formation is minimized by inerting in the tank with nitrogen.

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.

Contact:

North America: 1- 800-447-4369
Latin America: +55-11-5188-9000
Europe: (+800)-3-694-6367
Asia-Pacific: (+800)-7776-7776
<http://www.dow.com/>

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