

DMZ

Dimethylzinc

DMZ is a zinc alkyl used in pharmaceutical applications for a variety of transformation reactions including those of asymmetric nature.

CAS number
544-97-8

EINECS/ELINCS No.
208-884-1

TSCA status
listed on inventory

Molecular weight
95.45

Characteristics

Appearance	Clear, colorless liquid
Boiling point, 760 mm Hg	44 °C
Density, 28 °C	1.313 g/cm ³
Melting point	-29 °C
Solubility	Soluble in aromatic and saturated aliphatic and cycloaliphatic hydrocarbons
Stability to air	Ignites upon exposure
Stability to water	Reacts violently
Viscosity, 28 °C	0.3 mPa.s

Composition

Methane	^a ≥ 99.0 molar%
Other alkanes	^a ≤ 1.0 molar%
Zinc	^b ≥ 67.2 wt%

Notes:

^a Calculated from gas chromatographic analysis of hydrocarbons and hydrogen obtained by hydrolysis. ^b Determined by titration of aqueous hydrolyzate.

Applications

DMZ may be useful in organic synthesis reactions in pharmaceutical applications like asymmetric addition to aldehydes or ketones or in the synthesis of allylic amines and alcohols.

Storage

DMZ and its solutions are stable when stored under a dry, inert atmosphere and away from heat.

Packaging and transport

Commercial quantities of DMZ are available in Pyrosafe cylinders (500 gram) up to 1.5 m³ content cylinders for diluted DMZ blends. Contact your Nouryon sales manager for more information on containers. A technical bulletin entitled Pyrosafe Cylinders is also available from Nouryon. Both packaging and transport meet the international regulations.

Safety and handling

DMZ ignites upon exposure to air and reacts violently with water. Hydrocarbon solutions of DMZ may also ignite upon exposure to air. DMZ and its solutions must be handled under a dry, inert atmosphere, e. g. nitrogen or argon. Water must be scrupulously removed from process equipment prior to putting it into metal alkyls service. Failure to do so may result in an explosion. Products of complete combustion of DMZ and its solutions are zinc oxide, carbon dioxide and water. DMZ causes severe burns to the skin and eyes. It is imperative that proper personal protective equipment be worn when handling DMZ. Please refer to the Safety Data Sheet (SDS) for further information on the safe storage, use and handling of DMZ. This information should be thoroughly reviewed prior to acceptance of this product. The SDS is available at nouryon.com/sds-search.

Additional information

DMZ is a commercial product available as the neat pyrophoric liquid and as pyrophoric and nonpyrophoric solutions in a variety of hydrocarbon solvents. Consult your Nouryon representative for further information.

All information concerning this product and/or suggestions for handling and use contained herein are offered in good faith and are believed to be reliable. Nouryon, however, makes no warranty as to accuracy and/or sufficiency of such information and/or suggestions, as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Nouryon does not accept any liability whatsoever arising out of the use of or reliance on this information, or out of the use or the performance of the product. Nothing contained herein shall be construed as granting or extending any license under any patent. Customer must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes. The information contained herein supersedes all previously issued information on the subject matter covered. The customer may forward, distribute, and/or photocopy this document only if unaltered and complete, including all of its headers and footers, and should refrain from any unauthorized use. Don't copy this document to a website.

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The logo for Nouryon, featuring a stylized blue 'N' followed by the word 'ouryon' in a blue sans-serif font.