

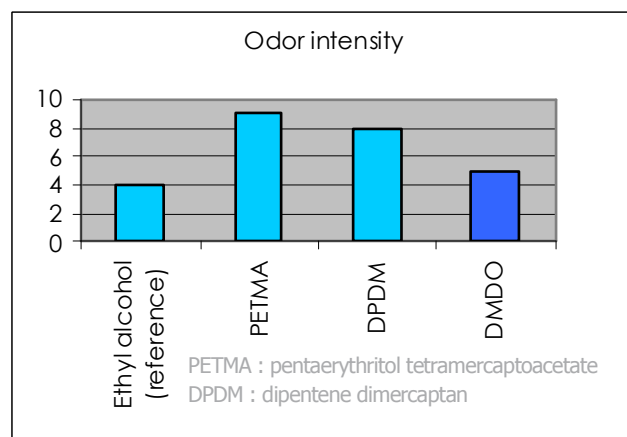
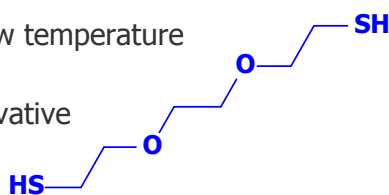
DMDO: A versatile chemical agent for coatings adhesives and sealants

CAS : 14970-87-7 EINECS : 239-044-2

POLYMERCAPTANS ARE WELL KNOWN IN EPOXY SYSTEMS TO IMPROVE THE CURING KINETICS. GENERALLY, THE PRESENCE OF THIOL GROUPS REDUCES THE GEL TIME
IN ADDITION, POLYMERCAPTANS CAN BE USED FOR THE PREPARATION OF POLYSULFIDES FOR SEALANTS

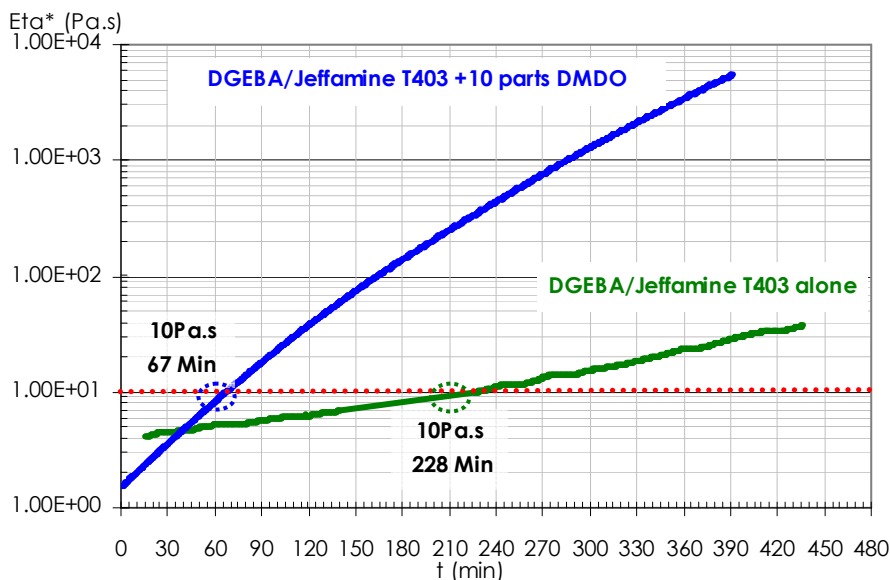
1,8-DIMERCAPTO-3,6-DIOXAOCANE is the product with several benefits such as:

- Highly reactive even at low temperature
- Reduction in gel time
- Low odor for a sulfur derivative
- Low viscosity
- Not moisture sensitive
- Non PBT
- Raw material for polythiol preparation



DMDO IN EPOXY RESINS SYSTEMS

1- DMDO: difunctional diluent in epoxy hardener systems



Initial viscosity (Pa.s) at RT:

- Jeffamine T403 alone = 4.1 Pa.s
- Jeffamine T403 + DMDO = 1.5 Pa.s

Pot life⁽¹⁾ (min):

- Jeffamine T403 alone = 228 min
- Jeffamine T403 + DMDO = 67 min

(1) time (required) to reach a viscosity of 10 Pa.s

When diluted in a well-known Jeffamine-based epoxy hardener, DMDO significantly reduces the initial viscosity of the epoxy (DGEBA)/amine system while increasing the curing kinetics.

2- DMDO: epoxy hardener combined with alkaline catalysts

Used as an epoxy hardener, DMDO combined with alkaline catalysts (such as 2,4,6-tris(dimethylaminomethyl)phenol) offers a high reaction speed even at room temperature unlike standard amine cured epoxies.

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DMDO: BUILDING BLOCK FOR A NEW GENERATION OF POLYTHIOL COMPOUNDS

Thanks to its double SH-functionality, DMDO can readily react with other molecules to form a new generation of polythiol compounds with enhanced properties. New polythiols without ester groups can be obtained starting from DMDO. Thus, a better water resistance is gained compared to well-known polythiols such as PETMP (PentaErythritol TetraMercaptoPropionate).

DMDO IN SEALANT APPLICATIONS

Thanks to the well-known thiol-ene reaction, DMDO can act as monomer to prepare functionalized polythioether polymers notably used as sealants. For example, a sealant composition containing a DMDO terminated polythioether has improved tensile properties (source: PRC-Desoto International, Inc., US2011319559).

DMDO can also be used as intermediate for the preparation of polyfunctional sulfur-containing epoxies. The latter can act as curing agent for polythioether (polysulfide)-based sealants (source: PRC-Desoto International, Inc., US2013345372).

MAIN FEATURES

Clear liquid
Purity \geq 97%

PACKAGING

DMDO can be delivered in drums.
Drums : 200 kg net weight

STORAGE / SAFETY / PRECAUTIONS DURING USE / HANDLING

Please refer to the safety data sheet before any use

PHYSICAL DATA

Density g/cm ³ (25°C)	:	1.14
Flash point (closed cup)	:	129 °C
Viscosity, Kinematic (25°C)	:	3.7 cSt

Updated: February, 25, 2014 Revision: 1

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