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# Solvenon® DPM

Clear, low-volatility, water-miscible, neutral liquid with a mild odour. Mainly used as a solvent in cleaners, printing inks, inks and in the coatings industry. In the latter case, it can be used together with Solvenon® PM, primarily to adjust the evaporation rate.

## Chemical nature

Dipropylene glycol monomethyl ether, Methoxypropoxypropanol, Methylpropylene glycol (mixture of isomers)

Molecular formula	C <sub>7</sub> H <sub>16</sub> O <sub>3</sub>
Molar mass	148.2 g/mol
CAS-No.	34590-94-8
EC-No.	252-104-2

## Delivery specification

Property	Value	Unit	Test method
- Solvenon® DPM isometric mixture	99.0 min.	%	GC-Method BASF
- Water	0.1 max.	%	DIN 51777, Part 1
Pt/Co color value (Hazen)	10 max.	-	DIN EN ISO 6271

**Properties**

Solvenon® DPM is a mixture of isomers. It is a clear, high-boiling, hygroscopic, mobile, low-volatility liquid with a mild odour and is miscible with water and common organic solvents.

By virtue of the ether and alcohol groups in the constituent isomers, Solvenon® DPM is an excellent solvent for many of the raw materials that are used in coatings, e. g. resins and binders. An important feature of

Solvenon® DPM is the fact that it acts as a solubilizer in many aqueous coating systems. It possesses the typical properties of ethers and alcohols. For instance, it reacts with acids (to form esters), oxidizing agents (to form the corresponding aldehydes or carboxylic acids), alkali metals (to form alcoholates) or aldehydes (to form acetals).

Solvenon® DPM may form peroxides with atmospheric oxygen.

**Physical data**

The following physical data have been compiled from the literature as well as from BASF measurements and calculations. They provide no guarantee of properties in the legal sense, however.

Property	Condition	Value	Test method
Boiling range	at 1013 hPa; 95 Vol.-%; 2 – 97 ml	185 – 195°C	DIN 51751
Density	at 20°C	0.943 – 0.961 g/cm <sup>3</sup>	DIN 51757
Refractive index $n_{20D}$		1.420 – 1.425	
Solidification point		-80°C (glass transition)	
Heat of combustion ( $\Delta H_c$ )		27 561 kJ/kg	
Enthalpy of vaporization ( $\Delta H_v$ )	at 1013 hPa	320.6 kJ/kg	
Enthalpy of formation ( $\Delta H_f$ )	at 25°C	-4 511 kJ/kg	
Surface tension $\sigma$	at 20°C	28.8 mN/m	
Evaporation rate	ether = 1	Approx. 380	DIN 53170
Hansen solubility parameters		$\delta_d = 15.50 \text{ (MPa)}^{1/2}$ $\delta_p = 5.70 \text{ (MPa)}^{1/2}$ $\delta_h = 11.20 \text{ (MPa)}^{1/2}$ $\delta_t = 19.95 \text{ (MPa)}^{1/2}$	

Solvenon® DPM forms an azeotropic mixture with water

- Solvenon® DPM	8.9%
- Water	91.1%
Boiling point	at 1013 hPa 99.2°C

T [°C]	Vapor pressure P [hPa]	Density $\rho$ [g/cm <sup>3</sup> ]	Viscosity $\eta$ [mPa · s]
-60		1.0260	2057
-40		1.0089	138.3
-20		0.9915	26.68
-10		0.9827	14.67
0	0.17	0.9738	8.93
10	1.35	0.9648	5.88
20	0.7	0.9557	4.12
40	2.6	0.9373	2.31
60	7.8	0.9185	1.47
80	21	0.8994	1.02
100	51	0.8799	0.75
120	113	0.8601	0.58
140	232	0.8400	0.46
160	445	0.8195	0.37
180	806		
188.2	1013		

**Applications**

Selected examples of applications of Solvenon® DPM are given below.

- Component of the solvent phase in coatings systems, e. g. cellulose lacquers or alkyd resin paints. As such, Solvenon® DPM is added to slow evaporation and improve flow and brushability.
- Additive in paint removers.
- Component of solvents for printing pastes, leather marking inks and special stamp-pad inks.
- Component of solvents for wood stains and polishes.
- Component in hydraulic fluids.
- Additive in surface cleaners, e. g. metals, floors and windows.
- Component of solvents in inks and ball point pastes.

Starting material for the production of esters that may be used as plasticizers.

**Storage & Handling**

Solvenon® DPM should be stored under nitrogen. The storage temperature must not exceed 40°C and moisture are excluded. Under these conditions, a storage stability of 12 months can be expected.

**Safety**

When using this product, the information and advice given in our Safety Data Sheet should be observed. Due attention should also be given to the precautions necessary for handling chemicals.

**Note**

The data contained in this Technical Information is based on our current knowledge and experience as well as our investigations according to the today's state-of-the-art. In view of the many factors that may affect processing and application of the Product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the Product for specific purpose. No liability of BASF can be derived therefrom. It is the responsibility of the recipient of the Product to ensure that any proprietary rights and existing laws and legislation are observed.

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