



Diglycerol Properties

DIGLYCEROL

Diglycerol is a clear viscous liquid very similar to glycerol. It has a higher molecular weight than glycerol and is less volatile. It is water soluble and can be combined with aqueous systems. Its applications are much like those of glycerol, including its use as a humectant in cosmetic formulations. It can also be converted to esters for use as emulsifiers in a variety of products.

Identification

Description	Practically colorless, clear, viscous liquid, having almost no odor
INCI name	Diglycerin
Molecular formula	$C_6H_{14}O_5$
CASRN	59113-36-9
Molecular weight	166.17

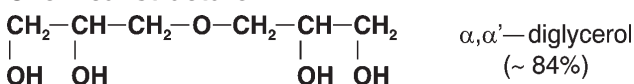
Composition

Solvay Diglycerol is a highly pure material that contains a minimum of 90% diglycerol. The remainder of the product is primarily a combination of glycerol and triglycerol.

The typical isomeric composition of Solvay Diglycerol is:

α,α' -diglycerol	~84%
α,β -diglycerol	~14%
β,β' -diglycerol	<1%
Cyclic diglycerols*	~2%

* Probably derivatives of 1,4-dioxane

Chemical structure**Specifications**

Solvay Diglycerol is guaranteed to have the following specifications:

Purity (%)	min. 90
Water (ppm)	max. 500
Chloride (ppm)	max. 500
Color (APHA)	max. 30

Physical properties

Property	Unit	Solvay Polyglycerol-3	Solvay Diglycerol	Glycerol
Density	g/mL	1.284	1.276	1.256
Dynamic viscosity	Pa.s	41	13	1
Refractive index	-	1.491	1.487	1.472
Dielectric constant	-	30	34	46
Boiling point	°C	-	205 (1.3 mbar)	290
Heat of Dissolution in water	J/g	-57	-52	-62
Specific heat capacity	J/g.K	2.24	2.28	2.38
Thermal conductivity	W/m.K	0.26	0.28	0.29
Thermal expansion coefficient	°C ⁻¹	0.00054 (20-60°C)	0.00053 (20-60°C)	0.00052 (20-25°C)
Flash point	°C	260	230	199
Fire point	°C	296	264	204
Autoignition	°C	400	380	370

Results obtained at 25°C, unless otherwise noted

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