



alteqo
renewable chemistry



TECHNICAL INFORMATION

GLYCASOL® / ISOPROPYLIDENE GLYCEROL

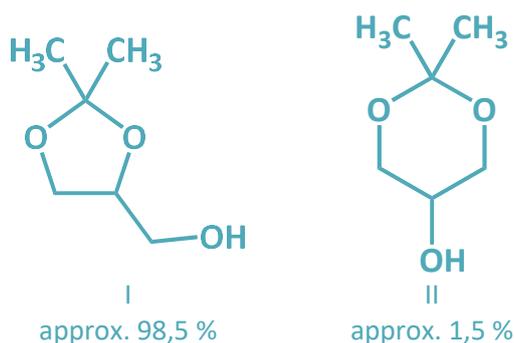
CHEMICAL NAME

- I. 2,2-Dimethyl-1,3-dioxolane-4-methanol (approx. 98,5 %)
 - II. 2,2-Dimethyl-1,3-dioxane-5-ol (approx. 1,5 %)
- (mixture of isomers)

Isopropylidene glycerol (also known as Solketal) is a clear, colorless, virtually odorless, easily mobile liquid at room temperature. As accompanying material of the main product isopropylidene glycerol I, the structural isomer II is contained in a very small amount:

CHEMICAL FORMULA: $C_6H_{12}O_3$

STRUCTURAL FORMULA



APPLICATIONS

Isopropylidene glycerol is a primary alcohol that can be formally described as a cyclic ether-substituted methanol.

These two groups of different polarity, the molecule shows both affinity for polar, especially OH-containing compounds, but also to less polar and apolar substances. Most notable is the perfect miscibility with water. At the same time, however, isopropylidene glycerol is also miscible with virtually all organic substance groups. For these reasons, it is particularly suitable as a universal solvent for a variety of applications.

In lacquers and inks, printing inks, adhesives, pesticides, detergents and cleaners, metal cleaners, emulsions, and dispersions are the most important industrial applications.

For example, isopropylidene glycerine is compatible with acrylate, epoxy, and alkyd resins as well as with polyurethanes and polyesters. As a vehicle for perfume oils, it is also suitable.

Due to the hydroxyl group, the molecule can also participate as a raw material in a variety of chemical reactions. In condensation reactions with elimination of water, isopropylidene glycerol can be incorporated as a reaction partner in polyesters, polyacrylates and polyethers, etc. Anhydrides and acids are used to form esters.

On request, we will gladly provide you with the data from our laboratory tests for the characterization of the substance.

GREEN CHEMISTRY

GLACONCHEMIE will manufacture GLYCASOL® / isopropylidene glycerol exclusively from biogenic glycerol previously obtained from GMO-free raw materials. Thus, the proportion of biogenic material in the finished product GLYCASOL® will be 68.2%.

REGULATORY INFORMATION

CAS:	100-79-8
EINECS:	202-888-7
INCI Name:	Isopropylidene glycerol
REACH:	01-2120066005-66-0001

PHYSICOCHEMICAL PROPERTIES

Color		colorless	Molecular weight	g/mol	132,16
Isopropylidene glycerol	wt%	min. 99	Density (20 °C)	g/cm ³	1,072*
Glycerol	wt%	max. 0,5	Refractive index (20 °C)		1,433*
Water	wt%	max. 0,5	Surface tension (25 °C)	mN/m	32,1
			Conductivity (20-100 °C)	µS/cm	1,02
Boiling range	°C	188-191	Hydroxyl number (exp.)		403
Flash point (PMCC)	°C	91	Hydroxyl number (theor.)		424
Autoignition temperature	°C	390			
Vapor pressure (20°C)	Pa	34	Hansen solubility parameters		
			δ _d	MPa ^{1/2}	16,6
pH-value (20 °C)		4-7,5	δ _p	MPa ^{1/2}	7,7
dyn. viscosity (25 °C)	mPas	11	δ _h	MPa ^{1/2}	12
kin. viscosity (25 °C)	mm ² /s	10,35	δ	MPa ^{1/2}	21,9

*...mean of the specification range

TOXICOLOGY AND SAFETY

According to GHS we have classified GLYCASOL® with the code H319, category 2, and label our samples with the pictogram GHS07 and the signal word "warning". For additional information on safe handling and toxicology, please refer to the safety data sheet.

The information listed here is based on our current best knowledge. In terms of accuracy or completeness, however, no warranty, liability or representation of a risk or property is made, intended or implied.