

64900 Glycerin

Chemical composition : $\text{CH}_2\text{OH}-\text{CHOH}-\text{CH}_2\text{OH}$

Colorless, clear, hardly mobile, odorless, sweet tasting, hygroscopic, non-toxic liquid, miscible with water and alcohol in any ratio, but insoluble in ether, gasoline, petroleum ether, chloroform and fatty oils.

Good solvent for many organic substances, such as salts (soda, borax, zinc chloride, iodine potassium, copper sulfate), alkalis, alkaline earths, alkaloids, etc.

Glycerol solidifies at 0°C after a longer period of time rather heavily to shiny, transparent crystals (rhombic system), which melt at $+17^\circ\text{C}$. Under normal atmospheric pressure the liquid boils almost without decomposition at 290°C , under 50 mm pressure already at 205°C . The density of the purest glycerol is 1.265; in aqueous solution the density decreases. The flash point of glycerol is 177°C .

Glycerin is used in the production of nitroglycerin, dynamite and blasting gelatine (here partly replaced by nitroglycol), as an elastic brake fluid in tubular recoil gates and hydraulic presses, as a moisturizing additive to skin creams, toothpastes, tube paints, shoe polish, hectograph compounds, stamp pads, modeling compounds, adhesives, paper, tobacco, shaving soaps, etc.

Glycerin was discovered by Scheele in 1779 during the saponification of olive oil with lead oxide. Chevreul showed in 1813 that fats are glycerol esters of fatty acids, and he gave glycerol its name (glycérine) in 1823. The constitutional formula was determined by Berthelot and Würtz (1833, 1855). The first glycerol synthesis was carried out by Friedel and Silva (1872).