

MP Biomedicals, LLC

29525 Fountain Parkway Solon, Ohio 44139

Telephone: 440/337-1200 Toll Free: 800/854-0530 Fax: 440/337-1180 mailto: <u>biotech@mpbio.com</u> web: <u>http://www.mpbio.com</u>

TECHNICAL INFORMATION

Catalog Number: 195199, 198595 Glutaraldehyde

Ō

Structure:

Molecular Formula: C₅H₈O₂ Molecular Weight: 100.1 CAS # 111-30-8 Synonym: Pentane-1,5-dial Physical Description: Clear, colorless liquid. Solution in water. Description: Protein cross-linking agent^{1,2}. Also possesses sporicidal activity³. This product is also suitable for use as an electron microscopy fixative⁴.

Glutaraldehyde reacts through cross-linking to impart water resistance to protein and polyhydroxy compounds. It is also a reducing agent for photochemicals. In organic syntheses, the reactive carbonyl groups of glutaraldehyde suggest its use as an intermediate for the production of resins, dyestuffs, and pharmaceuticals. Typical reactions would be: 1. With alcohols

OHC(CH ₂) ₃ CHO + ROH	
2. With hydroxylamine Hem OHC(CH ₂) ₃ CHO + 2NH ₂ OH →	Acetals HON ===C == C == C == NOH
3. With Sodium Bisulfite	Glutaraldioxime он он H ₂ H ₂ H ₂
OHC(CH ₂) ₃ CHO + 2N _a HSO ₃ - NaSO - 4. With hydrogen cyanide	₂— о— сн́— с́ — с́ — с́ — с́ — о— SO ₃№а ОН ОН Н₂ Н₂ Н₂
OHC(CH ₂) ₃ CHO + 2HCN - NC -	- CH C ² C ² CH CN Glutaraldehyde Dicyanohydrin
5. With Ammonia	Stadadonya Dioyalanyani
онс(сн ₂) ₃ сно + NH ₃	
Piperi	line
Typical Properties	
Specific Gravity at 25°C	25% Aqueous Solution 50% Aqueous Solution
	1.062 g/ml 1.124 g/ml
Vapor Pressure at 20°C	17 mm Hg 17 mm Hg
Freezing Point	-7.0°C -14.0°C

Viscosity at 0°C		
	8.4 cps	105.0 cps
Viscosity at 20°C	3.4 cps	22.1 cps
Viscosity at 40°C	·	
Surface Tanation at 20%C	1.7 cps	5.7 cps
Surface Tenstion at 20°C	35.2 dynes/cm	

Availability:			
Catalog Number	Description	Size	
195199	Glutaraldehyde, 25% Aqueous Solution	10 ml 100 ml	
198595	Glutaraldehyde, 50% Aqueous Solution	10 ml 100 ml	

References:

J. Mol. Biol., v. 65, 525 (1972).
Biochim. Biophys. Acta, v. 370, 477 (1974).
Appl. Microbiol., v. 28, 331 (1974)
Histochemie, v. 30, 162 (1972).