



Properties of Glutaraldehyde-Based Formulations

Summary

Glutaraldehyde in concentrations less than 50% in water is nonflammable, nonexplosive, and has a volatility less than water. Furthermore, glutaraldehyde solutions are not reportable under CERCLA, SARA 302, 304, and 313; and glutaraldehyde is not listed under California Proposition 65.

Physical Properties

Note: The physical properties given below apply only to glutaraldehyde and water. The properties of the formulation may vary accordingly if other components are included as active or inactive ingredients in a product.

Common Name	Glutaraldehyde
Chemical Name	1,5-Pentanedial
Synonyms	Aqueous Glutaraldehyde Solution
Chemical Family	Aldehydes
CAS Number	111-30-8
Molecular Formula	C ₅ H ₈ O ₂
Molecular Weight	100.11
Structural Formula	OHC(CH ₂) ₃ CHO
Stability	Stable below 38°C (100°F) up to 2 yr
Usual Fire and Explosion Hazards	None
Hazardous Polymerization	Will not occur
Solution Boiling Point at 760 mm Hg, °C (°F)	
2% glutaraldehyde in water	100.0 (212)
50% glutaraldehyde in water	100.5 (213)
Evaporation Rate (butyl acetate = 1)	
2% glutaraldehyde in water	0.84
50% glutaraldehyde in water	1.02
Flash Point	
Tag Closed Cup, ASTM D 56	None
Tag Open Cup, ASTM D 1310	None

Physical Properties (cont.)

Flammable Limits in Air by Volume Lower Upper	Not determined, aqueous system Not determined, aqueous system
Freezing Point, °C (°F) 2% glutaraldehyde in water 50% glutaraldehyde in water	-1 (30) -21 (-5.8)
Solubility in Water by Weight at 20°C, %	100
Specific Gravity at 20/20°C 2% glutaraldehyde in water 50% glutaraldehyde in water	1.01 1.13
Glutaraldehyde Vapor Pressure at 20°C, mm Hg 2% glutaraldehyde in water 50% glutaraldehyde in water	0.003 0.097
Glutaraldehyde Vapor Density at 25°C (Air = 1) 2% glutaraldehyde in water 50% glutaraldehyde in water	0.63 1.05

Regulatory Information

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Requirements

- Reportable Quantity (RQ) as required by 40 CFR 302.4 None

Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) Requirements

- Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for release as required in 40 CFR 355 (for SARA 302 and 304) None
- SARA reportable release of toxic chemicals as required by 40 CFR 372.65 (for SARA 313) None

California Proposition 65

- Glutaraldehyde contains no levels of listed substances that the State of California has found to cause cancer, birth defects, or other reproductive harm, which would require a warning under the statute.

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