



## MATERIAL SAFETY DATA SHEET

ROLF C. HAGEN INC., 3225 SARTELON,  
MONTREAL, QUEBEC, H4R 1E8

### GH (A-7832)

Section I. Product identification and uses		Section II. Hazardous ingredients	
Product name	Hardness reagent ( GH )	- Methanol	40-70 %
Chemical formula	Mixture	CAS: 67-56-1	
Chemical family	Mixture	- 2,2',2''- Nitrioltriethanol	20-40 %
		CAS: 102-71-6	
Material uses	Reagent to determine general hardness in water	- EDTA, disodium salt	1-5 %
		CAS: 6381-92-6	
		- Sodium Hydroxide 0.5N	15-20 %
		CAS: 1310-73-2	
Section III. Physical data			
Physical state and appearance/ Odor		Clear, blue, mobile liquid with mild alcohol odor.	
pH (10%)		10 – 11	
Percent volatile		100% ( V/V )	
Freezing point		May start to solidify at - 97,8 °C ( 144 °F )	
Boiling point		Not available	
Specific gravity		0.97	
Vapor density		The highest known value is 1,11 ( air = 1 )	
Vapor pressure		96 mm Hg	
Evaporation rate		Not available	
Solubility		Miscible in water	
Section IV. Fire and explosion data			
- Flash point: 17 C			
Section V. Reactivity data			
-Stability: Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition and contamination.			

Section VI. Toxicological properties	
<b>Routes of entry</b>	
Effects of acute exposure	May be fatal by ingestion inhalation or skin absorption. Irritant. Onset of symptoms may be delayed 1-30 hours. Target organs: heart, blood, central nervous system, liver, kidneys, spleen, eyes, skin, cardiovascular system, gastrointestinal system, respiratory system, lungs.
Eye	May cause eye injury which may persist for several days.
Skin	Causes skin irritation, scaling, reddening, drying, and cracking of the skin. Prolonged and repeated contact may lead to defraying dermatitis. Liquid can be absorbed in toxic amounts through intact skin.
Inhalation	High levels may cause irritating to mucous membranes and upper respiratory tract.
Ingestion	Poisonous or fatal if swallowed. Can affect the optic nerve resulting in blindness. Can cause mental sluggishness, nausea, vomiting, dyspnea, abdominal pain, diarrhea, convulsions, central nervous system depression, coma and death.
Effects of chronic overexposure	Skin contact may cause sensitization and an allergic skin reaction in a small proportion of individual.
Section VII First aid measures	
Eye contact	Immediately flush eyes with copious quantities of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Seek immediate medical attention.
Skin contact	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reusing.
Inhalation	Seek medical attention.
Ingestion	If conscious, wash out mouth with water. Have conscious person drink several glasses of water to dilute. Induce vomiting. Seek immediate medical attention. Never give anything by mouth to an unconscious or convulsing person.

Section VIII. Preventive measures	
Protective clothing in case of spill and leak	Not applicable
Spill and leak	Wash spill site after material pick up is complete. DO NOT empty into drains.
Waste disposal	According to all applicable regulations.
Storage and handling	Store in a cool place away from heated areas, sparks, and flame.

Section IX. Protective measures	
Protective clothing	Not applicable
Engineering controls	Not applicable

Section X. Other information	
Special precautions or comments	Flammable liquid! Highly toxic! Irritant! Readily absorbed through skin. Do not breath vapor. Avoid all contact with the product.

Prepared by Rolf C. Hagen Inc. (514) 332-0914	Validated January 18, 2005	MSDS A7832
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