



MATERIAL SAFETY DATA SHEET

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

NO3 #1 (A-7846)

Section I. Product identification and uses		Section II. Hazardous ingredients
Product name	Nitrate #1 reagent	- Hydrochloric acid 0.5N 95 % CAS: 7647-01-0
Chemical formula	Mixture	
Chemical family	Mixture	
Material uses	Reagent to determine nitrate in water	
Section III. Physical data		
Physical state and appearance/ Odor	Colorless liquid with a pungent odor.	
pH (10%)	1.0 – 1.5	
Percent volatile	100% (V/V)	
Freezing point	Not available	
Boiling point	Not available	
Specific gravity	1.01	
Vapor density	1,3 (air = 1)	
Vapor pressure	Not available	
Evaporation rate	Not available	
Solubility	Miscible in water	
Section IV. Fire and explosion data		
- Flash point : Not applicable - Flammable limits: Not applicable Auto-ignition temperature: Not available		
Section V. Reactivity data		
- Stability: Stable. Will corrode a wide variety of metals.		

Section VI. Toxicological properties	
Routes of entry	
Effects of acute exposure	Harmful by ingestion, inhalation or skin absorption. Corrosive. Target organs: skin, eyes, lungs, respiratory system. 100 ppm is dangerous to life or health.
Eye	Vapors, liquids and mists are extremely corrosive to the eyes. Brief contact of the vapors will be severely irritating. Brief contact of the liquid or mist will severely damage the eyes and prolonged contact may cause permanent eye injury which may be followed by blindness.
Skin	Causes severe burns. Severe pain and brownish or yellow stains: usually penetrates the full thickness of the skin. Lesser exposures may cause dermatitis and photosensitization.
Inhalation	Material is extremely destructive to tissue of the mucus membranes and upper respiratory tract. Can cause lung damage.
Ingestion	Burns in mouth, pharynx and gastrointestinal tract. Weakness from falling blood pressure, nausea, vomiting, dysphagia, abdominal pain, cardiovascular collapse, convulsions, coma and possible death. Asphyxia may occur from oedema of the glottis.
Effects of chronic overexposure	Repeated or prolonged skin contact can cause severe dermatitis or burns. May cause sensitization by skin contact. To the best of our knowledge, the chemical, physical and toxicity of this substance has not been fully investigated.
Section VII First aid measures	
Eye contact	Immediate first aid is needed to prevent eye damage. Immediately flush eye with copious quantities of water for at least 30 minutes holding lids apart to ensure flushing of the entire surface. Speed is essential. Seek immediate medical attention. Do not use chemical antidotes.
Skin contact	Immediately flush skin with plenty of water for at least 30 minutes while removing contaminated clothing and shoes. Do not use chemical antidotes. Speed is essential. Seek immediate medical attention. Wash contaminated clothing before reusing.
Inhalation	Call a physician.
Ingestion	If conscious, wash out mouth with water. Have conscious person drink several glasses of water or milk, repeating if vomiting. DO NOT induce vomiting. Aim to dilute acid 100 times approximately. 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	Cover with soda ash or lime. This will release carbon dioxide, so use caution. Place in a suitable container and mark for disposal. Wash spill site after material pick up is complete. DO NOT empty into drains. Stay upwind; keep out of low areas.
Waste disposal	According to all application regulations.
Storage and handling	Store in a cool place away from heated areas and flame. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breath gas/fumes/vapor/spray. Keep away from direct sunlight or strong incandescent light. Keep container tightly closed and dry. Protect from moisture. May corrode metallic surfaces. Handle and open container with care. Take off immediately all contaminated clothing. Do not get in eyes, on skin or on clothing. Wash well after use.
Section IX. Protective measures	
Protective clothing	Not applicable
Engineering controls	Not applicable
Section X. Other information	
Special precautions or comments	Corrosive! Causes severe burns! Risk of serious damage to eyes. Do not breath vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Solutions are highly corrosive. RTECS NO: MW4025000 (hydrochloric acid)
Prepared by Rolf C. Hagen Inc. (514) 332-0914	Validated January 19, 2005 MSDS A7846