

World Headquarters
Hach Company
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MSDS No: M01921

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: Monochlor F™ Reagent
Catalog Number: 2802246

HACH LANGE GmbH
Willstätterstrasse 11
40549 Düsseldorf, Germany
+49-(0)211-52880

Emergency Telephone Numbers:
(Poison Information Center Main)
(+49 (0) 6131 19240) 24 HR

SDS Number: M01921

Chemical Name: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

Use of the substance/preparation: Determination of monochloramine and ammonia

CAS No.: Not applicable

Hazard: Harmful if swallowed Causes burns.

Date of MSDS Preparation:

Day: 13

Month: 01

Year: 2006

Additional Emergency Response Numbers: Austria: +49 (0)6131 19240, Belgium: +32-(0)70-245245, France: +33 (0)1-40370404, Italy: +39-0266101029, Netherlands: +31 -(0)30-2748888, Switzerland: +41-(0)1-2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Sodium Tartrate

EEC Number: 2127733

CAS No.: 6106247

Percent Range: < 30

Percent Range Units: weight / weight

Ingredient EEC Symbol: Not applicable

Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

Sodium Nitroferricyanide

EEC Number: 2383739

CAS No.: 14402-89-2

Percent Range: < 5,0

Percent Range Units: weight / weight

Ingredient EEC Symbol: Not applicable

Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable

TLV: 5 mg/m³ as CN⁻

PEL: 5 mg/m³ as CN⁻

EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust. Cyanides are on the Priority List for OELs.

Sodium Citrate

EEC Number: 2006753

CAS No.: 68042

Percent Range: < 50

Percent Range Units: weight / weight

Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

2-Hydroxybenzyl Alcohol

EEC Number: 2019605
CAS No.: 90047
Percent Range: < 20
Percent Range Units: weight / weight
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: Not established

Lithium Hydroxide, Anhydrous

EEC Number: 2151834
CAS No.: 1310652
Percent Range: 1,0 - 10,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: C - CORROSIVE Xn - HARMFUL
Ingredient R phrase(s) (R phrase details given in Heading 16): R 20 R 34
TLV: STEL 2 mg/m³ (ceiling)
PEL: 2 mg/m³
EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Light yellow powder
Odor: None
EU Symbols: C - CORROSIVE Xn - HARMFUL
R PHRASES: R 20: Harmful by inhalation. R 34: Causes burns.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): Causes burns
Skin Contact (EC): Causes burns
Skin Absorption (EC): Harmful if absorbed through the skin Effects similar to those of ingestion Sodium nitroferrocyanide produces a delayed cyanide poisoning reaction.
Target Organs (SA E): Central nervous system Blood
Ingestion (EC): Causes: burns Sodium nitroferrocyanide produces a delayed cyanide poisoning reaction. May cause: headache nausea vomiting central nervous system effects liver damage kidney damage
Target Organs (Ing E): Central nervous system Blood Liver Kidneys
Inhalation: Causes: respiratory tract irritation Sodium nitroferrocyanide produces a delayed cyanide poisoning reaction. May cause: headache nausea vomiting central nervous system effects
Target Organs (Inh E): Central nervous system Blood
Medical Conditions Aggravated: Pre-existing: Kidney conditions Liver conditions
Chronic Effects: Chronic overexposure may cause diarrhea fatigue weakness death central nervous system effects kidney damage liver damage Lithium compounds have been implicated in development of aplastic anemia. Signs of lithium poisoning include dehydration, extreme weight loss, fine tremor of hands, nausea, vomiting and diarrhea,
Cancer / Reproductive Toxicity Information:
This product does NOT contain any IARC listed chemicals.

Additional Cancer / Reproductive Toxicity Information: None reported
Toxicologically Synergistic Products: None reported

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.

Skin Contact (First Aid): Wash skin with soap and plenty of water. Remove contaminated clothing. Call physician immediately.

Ingestion (First Aid): Do not induce vomiting. Give 1-2 glasses of water. Call physician immediately. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. Call physician.

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, this product decomposes to form toxic gases.

Hazardous Combustion Products: May emit acrid smoke and fumes.

Fire / Explosion Hazards: This product will not burn or explode.

Static Discharge: None reported.

Mechanical Impact: None reported

Extinguishing Media: Dry chemical. Carbon dioxide. Alcohol foam.

Extinguishing Media NOT To Be Used: Not applicable. Not applicable. Not applicable.

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear. Evacuate area and fight fire from a safe distance.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

Containment Technique: Releases of this material may contaminate the environment. Stop spilled material from being released to the environment.

Clean-up Technique: Avoid contact with spilled material. Sweep up material. Dispose of material in an E.P.A. approved hazardous waste facility. Decontaminate the area of the spill with a soap solution.

Evacuation Procedure: Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) when: a pound or more of loose powder is spilled. If conditions warrant, increase the size of the evacuation.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, clothing. Do not breathe dust. Wash thoroughly after handling. Use with adequate ventilation. Maintain general industrial hygiene practices when using this product.

Storage: Store between 10° and 25°C. Keep away from: acids / acid fumes, oxidizers

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Determination of monochloramine and ammonia

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Use a fume hood to avoid exposure to dust, mist or vapor. Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields

Skin / Hand Protection: lab coat, disposable latex gloves

Inhalation Protection: laboratory fume hood

Precautionary Measures: Avoid contact with: eyes, skin, clothing. Do not breathe: dust. Wash thoroughly after handling. Use with adequate ventilation. Keep away from: acids/acid fumes, oxidizers

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits:

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Light yellow powder

Physical State: Solid

Odor: None

pH: Not determined

Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Boiling Point: Not applicable
Melting Point: Not determined
Flash Point: Not applicable
Method: Not applicable
Autoignition Temperature: Not applicable
Flammability Limits:
 Lower Explosion Limits: Not applicable
 Upper Explosion Limits: Not applicable
Specific Gravity (water = 1): Not determined
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not applicable
Partition Coefficient (n-octanol / water): Not applicable
Solubility:
 Water: Not determined
 Acid: Not determined
 Other: Not determined
Metal Corrosivity:
 Steel: Not determined
 Aluminum: Not determined

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Heating to decomposition. Extreme temperatures
Reactivity / Incompatibility: Incompatible with: acids iodine iron salts lead acetate organic materials oxidizers silver nitrate sodium phosphate
Hazardous Decomposition: Contact with acids/acid fumes releases toxic cyanide gas. Heating to decomposition releases toxic and/or corrosive fumes of: cyanide nitrogen oxides sodium oxides
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
 LD50: None reported
 LC50: None reported
 Dermal Toxicity Data: None reported
 Skin and Eye Irritation Data: None reported
 Mutation Data: None reported
 Reproductive Effects Data: None reported
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Ingredient Toxicological Data: Sodium ferricyanide: Orl rat LDLo=20mg/kg; Sodium citrate: Orl rat LD50 > 8g/kg; Sodium tartrate: Orl rabbit LD50 = 5290 mg/kg; LiOH: Orl rat LD50=225mg/kg

This product does NOT contain any IARC listed chemicals.

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product.
Ingredient Ecological Information: --
No ecological data available for the ingredients of this product.

13. DISPOSAL CONSIDERATIONS

NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information. In Europe: Chemical

and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Lithium Hydroxide Mixture

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ICAO Hazard Class: 8

ICAO Subsidiary Risk: NA

ICAO UN/ID Number: UN2680

ICAO Packing Group: II

I.M.O.:

I.M.O. Proper Shipping Name: Lithium Hydroxide Mixture

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I.M.O. Hazard Class: 8

I.M.O. Subsidiary Risk: NA

I.M.O. UN Number: UN2680

I.M.O. Packing Group: II

A.D.R.:

A.D.R. Proper Shipping Name: Lithium Hydroxide Mixture

NA

A.D.R. Hazard Class: 8

A.D.R. Subsidiary Risk: NA

A.D.R. UN-Number:: 2680

A.D.R. Packing Group: II

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit Hazard Class: 9 UN Number 3316

15. REGULATORY INFORMATION

National Inventories:

EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.

EEC Number: Not applicable

EEC LABEL COPY:

EU Symbols: C - CORROSIVE Xn - HARMFUL

R PHRASES: R 20: Harmful by inhalation. R 34: Causes burns.

S PHRASES: S 22: Do not breathe dust. S 37/39: Wear suitable gloves and eye / face protection. S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. OTHER INFORMATION

References: TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Technical Judgment. Sixth Annual Report on Carcinogens, 1991. U.S. Department of Health and Human Services. Rockville, MD: Technical Resources, Inc. 1991. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. In-house information. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1-42) Supplement 7. France: 1987. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. Cassaret and Doull's Toxicology, 3rd Ed. New York: Macmillan Publishing Co., Inc., 1986. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor).

R PHRASES: R 20: Harmful by inhalation. R 34: Causes burns.

Use of the substance/preparation: Determination of monochloramine and ammonia

Revision Summary: Updates in Section(s) 14,

Legend:

NA - Not Applicable

ND - Not Determined

w/w - weight/weight

w/v - weight/volume

NV - Not Available

v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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