

World Headquarters
Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669 -3050

MSDS No : M00023

SAFETY DATA SHEET

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

Product Name: Buffer Powder Citrate Type
Catalog Number: 2107669

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: M00023
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Determination of manganese
CAS No.: Not applicable
Hazard: Causes moderate eye irritation.
Date of MSDS Preparation:
Day: 01
Month: May
Year: 2007
Additional Emergency Response Numbers: Austria: +49 (0)6131 19240, Belgium: +32 -(0)70 -245245,
France: +33 -(0)1 -40370404, Italy: +39 -02-66101029, Netherlands: +31 -(0)30 -2748888, Switzerland: +41 -
(0)1 -2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Citric Acid

EEC Number: 2010691
CAS No.: 77-92-9
Percent Range: 15,0 - 25,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

Sodium Phosphate, Dibasic

EEC Number: 2314487
CAS No.: 7558-79-4
Percent Range: 45,0 - 55,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: Not established
PEL: Not established

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

Sodium Sulfate

EEC Number: 2318209

CAS No.: 7757-82-6

Percent Range: 30,0 - 40,0

Percent Range Units: weight / weight

Ingredient EEC Symbol: Not applicable

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

TLV: Not established

PEL: Not established

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

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: White powder

Odor: None

EU Symbols: Not applicable

R PHRASES: Not applicable

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): May cause irritation

Skin Contact (EC): May cause irritation

Skin Absorption (EC): No effects anticipated

Target Organs (SA E): Not applicable

Ingestion (EC): Very large doses may cause: nausea vomiting diarrhea lethargy muscular cramps fever

Target Organs (Ing E): None Reported

Inhalation: May cause: respiratory tract irritation

Target Organs (Inh E): None Reported

Medical Conditions Aggravated: Pre-existing: Eye conditions

Chronic Effects: Citric acid chronic overexposure may cause effects due to the ability of citric acid to chelate metals, which could impair the body's ability to absorb calcium and iron.

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 plenty of water. Call physician if irritation develops.

Ingestion (First Aid): Give large quantities of water. Call physician immediately.

Inhalation: Remove to fresh air.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.

Hazardous Combustion Products: Toxic fumes of: phosphorus oxides sodium monoxide sulfur oxides, carbon monoxide, carbon dioxide.

Fire / Explosion Hazards: May react violently with: aluminum / aluminum compounds metal nitrates

Static Discharge: None reported.

Mechanical Impact: None reported
Extinguishing Media: Water.
Extinguishing Media NOT To Be Used: Not applicable
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

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: Stop spilled material from being released to the environment.

Clean-up Technique: Scoop up spilled material into a large beaker and dissolve with water. Flush the spilled material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution.

Evacuation Procedure: Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.

7. HANDLING AND STORAGE

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

Storage: Store at 10 - 30°C. Keep container tightly closed when not in use. Protect from: moisture

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Determination of manganese

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields

Skin / Hand Protection: disposable latex gloves lab coat

Inhalation Protection: adequate ventilation

Precautionary Measures: Avoid contact with: eyes. Do not breathe: dust. Wash thoroughly after handling. Protect from: moisture

TLV: Not established

PEL: Not established

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

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: White powder

Physical State: Solid

Odor: None

pH: of 1% solution at 23 °C = 6,35

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Boiling Point: Not applicable

Melting Point: 160 °C 320 °F

Flash Point: Not applicable

Method: Not applicable

Autoignition Temperature: Not determined

Flammability Limits:

Lower Explosion Limits: Not applicable

Upper Explosion Limits: Not applicable
Specific Gravity (water = 1): 2,30
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not determined
Partition Coefficient (n -octanol / water): Not determined
Solubility:
Water: Soluble
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: Excess moisture Heating to decomposition.
Reactivity / Incompatibility: Incompatible with: metal nitrates aluminum
Hazardous Decomposition: Toxic fumes of: phosphorus oxides sulfur oxides carbon monoxide carbon dioxide
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: Citric Acid Skin rabbit 500 mg/24 hour: MODERATE. Citric Acid Eye rabbit 750 µg/24 hour: SEVERE.
Mutation Data: None reported
Reproductive Effects Data: None reported
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Ingredient Toxicological Data: Citric acid Oral rat LD50 = 6730 mg/kg; Sodium Sulfate Oral mouse LD50 = 5989 mg/kg; Sodium Phosphate Oral rat LD50 = 17 g/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: Sodium Sulfate: Aquatic Toxicity: TLm 13500 mg/L bluegill sunfish / 96 hours, TLm 16500 mg/L mosquito fish / 96 hours

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 regulations or must be passed to a packaging return system.

-specific

14. TRANSPORT INFORMATION

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Not Currently Regulated

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ICAO Hazard Class: NA

ICAO Subsidiary Risk: NA

ICAO UN/ID Number: NA

ICAO Packing Group: NA

I.M.O.:

I.M.O. Proper Shipping Name: Not Currently Regulated

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I.M.O. Hazard Class: NA

I.M.O. Subsidiary Risk: NA

I.M.O. UN Number: NA

I.M.O. Packing Group: NA

A.D.R.:

A.D.R. Proper Shipping Name: Not Currently Regulated

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A.D.R Hazard Class: NA

A.D.R. Subsidiary Risk: NA

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

A.D.R. Packing Group: NA

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: Not applicable

R PHRASES: Not applicable

S PHRASES: Not applicable

16. OTHER INFORMATION

References: NIOSH Registry of Toxic Effects of Chemical Substances, 1985 -86. Cincinnati: U.S. Department of Health and Human Services, April, 1987. CCINFO MSDS/FTSS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. Technical Judgment. In-house information. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332 -2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992 -1993. American Conference of Governmental Industrial Hygienists, 1992.

R PHRASES: Not applicable

Use of the substance/preparation: Determination of manganese

Revision Summary: Updates in Section(s) 14,

Legend:

NA - Not Applicable

w/w - weight/weight

ND - Not Determined

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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