

World Headquarters
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(970) 669-3050

MSDS No: M00171

SAFETY DATA SHEET

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

Product Name: Silver 1 Reagent Powder Pillows
Catalog Number: 2293566

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: M00171

Chemical Name: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

Use of the substance/preparation: Determination of silver

CAS No.: Not applicable

Hazard: Causes severe eye irritation. May cause skin irritation.

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

Cyclohexanediaminetetraacetic Acid, Disodium Magnesium Salt

EEC Number: 2641956

CAS No.: 63451-33-2

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

Potassium Borate

EEC Number: 2155755

CAS No.: 133270

Percent Range: 50,0 - 60,0

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

Other component

EEC Number: Not applicable

CAS No.: Not applicable

Percent Range: < 1,0

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: Not established

Citric Acid

EEC Number: 2010691
CAS No.: 77929
Percent Range: 1,0 - 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: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

Sodium Citrate

EEC Number: 2006753
CAS No.: 68042
Percent Range: 10,0 - 20,0
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: Light yellow 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 May cause allergic reaction
Skin Absorption (EC): Will be absorbed through abraded or broken skin. Effects similar to those of ingestion
Target Organs (SA E): Kidneys Central nervous system
Ingestion (EC): May cause: nausea vomiting diarrhea muscular twitching lethargy circulatory disturbances central nervous system depression shock kidney damage coma death
Target Organs (Ing E): Kidneys Central nervous system
Inhalation: May cause: respiratory tract irritation
Target Organs (Inh E): None Reported
Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Kidney conditions
Chronic Effects: Chronic overexposure may cause weight loss diarrhea anemia 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: During a fire, this product decomposes to form toxic gases.

Hazardous Combustion Products: Toxic fumes of: potassium oxides sodium oxides

Fire / Explosion Hazards: None reported

Static Discharge: None reported.

Mechanical Impact: None reported

Extinguishing Media: Use media appropriate to surrounding fire conditions

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. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Flush the spilled material to the drain with a large excess of water. Decontaminate the area of the spill with a weak acid 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: Protect from: heat moisture Store in a cool, dry place.

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Determination of silver

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: 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

Inhalation Protection: adequate ventilation

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

TLV: Not established

PEL: Not established

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

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Light yellow powder

Physical State: Solid

Odor: None

pH: 5% solution = 9,63

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Boiling Point: Not applicable

Melting Point: > 360°C

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): 1,729
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not applicable
Partition Coefficient (n-octanol / water): Not applicable
Solubility:
 Water: Partially Soluble
 Acid: Partially Soluble
 Other: Not determined
Metal Corrosivity:
 Steel: Not determined
 Aluminum: 0,138 in/yr

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Excess moisture Extreme temperatures
Reactivity / Incompatibility: Incompatible with: oxidizers metal nitrates
Hazardous Decomposition: No hazardous decomposition products known.
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: Eye effects, rabbit - 750 µg/24H - SEVERE; Skin, rabbit - 500 mg/24H - MODERATE
 Mutation Data: None reported
 Reproductive Effects Data: None reported
 --
Ingredient Toxicological Data: Potassium borate: Oral rat LD50 = 3690 mg/kg; Sodium citrate: Oral rat LD50 > 8 g/kg; Citric acid: Oral rat LD50 = 6730 mg/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: 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: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. In-house information. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. Technical Judgment. Vendor Information. 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 silver

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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MSDS No: M00161

SAFETY DATA SHEET

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

Product Name: Silver 2 Reagent Solution Pillows
Catalog Number: 2293666

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: M00161

Chemical Name: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

Use of the substance/preparation: Determination of silver

CAS No.: Not applicable

Hazard: May cause irritation.

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

Tween 20 Polyoxvethvlene (20) Sorbitanmonolaurate

EEC Number: Not applicable

CAS No.: 9005645

Percent Range: 20,0 - 30,0

Percent Range Units: volume / volume

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

1-Methyl-2-pyrrolidinone

EEC Number: 2128281

CAS No.: 872-50-4

Percent Range: 70,0 - 80,0

Percent Range Units: volume / volume

Ingredient EEC Symbol: Xi - IRRITATING

Ingredient R phrase(s) (R phrase details given in Heading 16): R 36/38

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: Nne found. N-Methyl-2-pyrrolidone is on the Priority List for OELs.

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Yellow liquid
Odor: Mild amine
EU Symbols: Xi - IRRITATING
R PHRASES: R 36/38: Irritating to eyes and skin.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): Causes irritation
Skin Contact (EC): Causes irritation
Skin Absorption (EC): None Reported
Target Organs (SA E): None Reported
Ingestion (EC): May cause: gastrointestinal tract irritation nausea vomiting diarrhea
Target Organs (Ing E): None Reported
Inhalation: May cause: irritation of nose and throat
Target Organs (Inh E): None Reported
Medical Conditions Aggravated: None reported
Chronic Effects: Methyl -2-pyrrolidinone has shown effects to the bone marrow, thymus, spleen and lymphatic system in laboratory tests.
Cancer / Reproductive Toxicity Information:
This product does NOT contain any IARC listed chemicals.

Additional Cancer / Reproductive Toxicity Information: Contains: an experimental teratogen.
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 for 15 minutes. Call physician immediately.
Ingestion (First Aid): Give 1-2 glasses of water. Induce vomiting by sticking finger down throat. Call physician immediately.
Inhalation: Remove to fresh air.

5. FIRE FIGHTING MEASURES

Flammable Properties: This material does NOT sustain combustion when tested according to the UN Recommendation's "Methods of Testing for Combustibility".
Hazardous Combustion Products: This material will not burn.
Fire / Explosion Hazards: May ignite on contact with: heat oxidizers
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Alcohol foam. Dry chemical.
Extinguishing Media NOT To Be Used: Not applicable 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: Absorb spilled liquid with non-reactive sorbent material. Stop spilled material from being released to the environment.

Clean-up Technique: Absorb spilled liquid with non-reactive sorbent material. Incinerate material at 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 gallon or more of liquid 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 mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Keep away from: heat sparks, flames and other ignition sources Keep container tightly closed when not in use.
Special Packaging Instructions: Not applicable
Use of the substance/preparation: Determination of silver

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 skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Keep away from: heat sparks, flames and other ignition sources

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: Not established

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Yellow liquid

Physical State: Liquid

Odor: Mild amine

pH: 10,0

Vapor Pressure: Not determined

Vapor Density (air = 1): Not determined

Boiling Point: 185° (365° F)

Melting Point: Not determined

Flash Point: 88° C (190° F)

Method: Closed cup

Autoignition Temperature: Not determined

Flammability Limits:

Lower Explosion Limits: Not determined

Upper Explosion Limits: Not determined

Specific Gravity (water = 1): 1,10

Evaporation Rate (water = 1): 0,075

Volatile Organic Compounds Content: Not determined

Partition Coefficient (n-octanol / water): Not applicable

Solubility:

Water: Very Soluble

Acid: Very Soluble

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: May react violently in contact with: oxidizers strong acids

Hazardous Decomposition: Heating to decomposition releases: carbon dioxide carbon monoxide nitrogen 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: 1-Methyl-2-pyrrolidinone: Eye rabbit 100 mg - MODERATE; Tween 20: Skin human 15 mg/3D (intermittent) - MILD

Mutation Data: None reported

Reproductive Effects Data: 1-Methyl-2-pyrrolidinone: Oral rat TDLo = 9700 mg/kg - fetal death, other developmental abnormalities; Inhalation rat TDLo = 150 ppm/6H - Growth statistics, delayed effects

Dermal rat TDLo = 7500 mg/kg - post implantation mortality, litter size, fetotoxicity; Oral mouse TDLo = 12825 mg/kg - post implantation mortality, fetotoxicity, craniofacial abnormalities

Ingredient Toxicological Data: Tween 20: Oral rat LD50 = 36700 µl/kg, Oral mouse LD50 > 33 g/kg; 1-methyl-2-pyrrolidinone: Oral rat LD50 = 3914 mg/kg, Oral mouse LD50 = 5130 mg/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: 1-methyl-2-pyrrolidinone: Air pollution factors - 1 mg/m³ = 0,24 ppm, 1 ppm = 4,12 mg/m³; Bio effects: Bacteria (pseudomonas) LD₀ = 5000 mg/l, Algae (scenedesmus) LD₀ = 5000 mg/l, Protozoa (colpoda) LD₀ = 5000 mg/l

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: Not Currently Regulated

--

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 or are placed on the market in quantities less than 10 kg per year.

EEC Number: Not applicable

EEC LABEL COPY:

EU Symbols: Xi - IRRITATING

R PHRASES: R 36/38: Irritating to eyes and skin.

S PHRASES: S 41: In case of fire and/or explosion do not breathe fumes.

16. OTHER INFORMATION

References: Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. In-house information. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992.

R PHRASES: R 36/38: Irritating to eyes and skin.

Use of the substance/preparation: Determination of silver

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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MSDS No: M00278

SAFETY DATA SHEET

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

Product Name: Sodium Thiosulfate
Catalog Number: 2293766

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: M00278
Chemical Name: Sodium Thiosulfate, Anhydrous
Chemical Formula: Na₂S₂O₃ · 5H₂O
Chemical Family: Reducing Agent
Use of the substance/preparation: Laboratory Reagent
CAS No.: 10102-177
Hazard: May cause irritation.
Date of MSDS Preparation:
Day: 12
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 Thiosulfate

EEC Number: 2318675
CAS No.: 10102-17-7
Percent Range: 100,0
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: Colorless crystals
Odor: None
EU Symbols: Not applicable
R PHRASES: Not applicable

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): May cause irritation
Skin Contact (EC): No effects are anticipated
Skin Absorption (EC): None Reported
Target Organs (SA E): None Reported

Ingestion (EC): Causes: gastrointestinal tract irritation

Target Organs (Ing E): None Reported

Inhalation: May cause: irritation of nose and throat

Target Organs (Inh E): None Reported

Medical Conditions Aggravated: None reported

Chronic Effects: None reported

Cancer / Reproductive Toxicity Information:

IARC Listed: No

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 1-2 glasses of water. Call physician immediately. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air.

5. FIRE FIGHTING MEASURES

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

Hazardous Combustion Products: Toxic fumes of: sulfur oxides.

Fire / Explosion Hazards: May react violently with: strong oxidizers

Static Discharge: None reported.

Mechanical Impact: None reported

Extinguishing Media: Water. Carbon dioxide Dry chemical.

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.

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: Keep away from: oxidizers Protect from: moisture

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Laboratory Reagent

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: 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

Inhalation Protection: adequate ventilation

Precautionary Measures: Avoid contact with: eyes Do not breathe: dust Wash thoroughly after handling. Keep away from: oxidizers

TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Colorless crystals
Physical State: Solid
Odor: None
pH: of 5% solution = 6,5 - 8
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Boiling Point: Not applicable
Melting Point: 48° C 118° 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): 1,69
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: 0,0%
Partition Coefficient (n-octanol / water): Not available
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: Heating to decomposition. Excess moisture
Reactivity / Incompatibility: May react violently in contact with: sodium nitrite oxidizers
Hazardous Decomposition: Toxic fumes of sulfur oxides.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
LD50: Oral rat LD50 > 8 gm/kg
LC50: None reported
Dermal Toxicity Data: None reported
Skin and Eye Irritation Data: None reported
Mutation Data: None reported
Reproductive Effects Data: None reported
--
Ingredient Toxicological Data: --
Not applicable
IARC Listed: No

12. ECOLOGICAL INFORMATION

Product Ecological Information: Aquatic toxicity: 24000 mg / l / 96 hours / mosquito-fish / TLm / turbid water at 22°-24° C

Ingredient Ecological Information: --
Not applicable

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: 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: EINECS Listed: Yes

EEC Number: 2318675

EEC LABEL COPY:

EU Symbols: Not applicable

R PHRASES: Not applicable

S PHRASES: Not applicable

16. OTHER INFORMATION

References: TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. Technical Judgment. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. In-house information. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. CCINFO MSDS/FTSS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. 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: Not applicable

Use of the substance/preparation: Laboratory Reagent

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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