

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

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 -026101029, Netherlands: +31 -(0)30 -2748888, Switzerland: +41 -(0)1 -2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Tween 20 Polyoxyethylene (20) Sorbitanmonolaurate

EEC Number: Not applicable
CAS No.: 900565
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 fo und. 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: N-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 - $1 \text{ mg/m}^3 = 0,24 \text{ ppm}$, $1 \text{ ppm} = 4,12 \text{ mg/m}^3$; Bio effects: Bacteria (pseudomonas) $\text{LD}_{50} = 5000 \text{ mg/l}$, Algae (scenedesmus) $\text{LD}_{50} = 5000 \text{ mg/l}$, Protozoa (colpoda) $\text{LD}_{50} = 5000 \text{ mg/l}$

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

--

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

--

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.

HACH COMPANY ©2006