

World Headquarters
Hach Company
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MSDS No: M00639

SAFETY DATA SHEET

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

Product Name: Silver Nitrate Titrant 0,0493 N
Catalog Number: 2349832

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: M00639

Chemical Name: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

Use of the substance/preparation: Determination of chloride

CAS No.: Not applicable

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

2. COMPOSITION / INFORMATION ON INGREDIENTS

Silver Nitrate

EEC Number: 2318539

CAS No.: 7764888

Percent Range: < 1,0

Percent Range Units: volume / volume

Ingredient EEC Symbol: Not applicable

Ingredient R phrase(s) (R phrase details give n in Heading 16): R 52/53

TLV: 0,01 mg/m³ (as Ag)

PEL: 0,01 mg/m³ as Ag

EU Occupational Exposure Limits: 0,01 mg/m³

Demineralized Water

EEC Number: 2317912

CAS No.: 7732185

Percent Range: >95,0

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

Isopropanol

EEC Number: 2006617

CAS No.: 67630

Percent Range: < 5,0

Percent Range Units: volume / volume
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: 400 ppm (500 ppm STEL)
PEL: 400 ppm
EU Occupational Exposure Limits: 200 ppm (500 mg/m³)

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Clear, colorless liquid
Odor: None
EU Symbols: Not applicable
R PHRASES: R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): May cause irritation
Skin Contact (EC): None reported
Skin Absorption (EC): Will be absorbed through the skin. May cause slate-gray to bluish discoloration.
Target Organs (SA E): None Reported
Ingestion (EC): May cause: abdominal cramps nausea
Target Organs (Ing E): None Reported
Inhalation: No effects anticipated
Target Organs (Inh E): Not applicable
Medical Conditions Aggravated: Pre-existing: Skin conditions Eye conditions
Chronic Effects: Chronic overexposure may cause accumulation of silver in body tissues which causes a slate-gray to bluish discoloration. Silver compounds may cause gray to black discoloration of the eyes and skin.
Cancer / Reproductive Toxicity Information:
An ingredient of this mixture is: IARC Group 3: Non-classifiable
Isopropanol
Additional Cancer / Reproductive Toxicity Information: Contains: an experimental teratogen. an experimental mutagen.
Toxicologically Synergistic Products: None reported

4. FIRST AID MEASURES

Eye Contact: Flush eyes with water. Call physician if irritation develops.
Skin Contact (First Aid): Wash skin with plenty of water.
Ingestion (First Aid): Give large quantities of water. Call physician immediately.
Inhalation: None required.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.
Hazardous Combustion Products: May emit acrid smoke and fumes.
Fire / Explosion Hazards: None reported
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: Releases of this material may contaminate the environment. Absorb spilled liquid with non reactive sorbent material. Stop spilled material from being released to the environment. Dike the spill to contain material for later disposal.

Clean-up Technique: Cover spilled material with an alkali, such as soda ash or sodium bicarbonate. Scoop up slurry into a large beaker. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. 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 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 skin Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

Storage: Protect from: light Keep container tightly closed when not in use.

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Determination of chloride

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: lab coat disposable latex gloves

Inhalation Protection: adequate ventilation

Precautionary Measures: Avoid contact with: eyes skin Wash thoroughly after handling.

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: Not established

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid

Physical State: Liquid

Odor: None

pH: 3,5

Vapor Pressure: Not determined

Vapor Density (air = 1): Not determined

Boiling Point: 95°C

Melting Point: Not determined

Flash Point: >94,4°C (202°F)

Method: Closed cup

Autoignition Temperature: Not determined

Flammability Limits:

Lower Explosion Limits: Not determined

Upper Explosion Limits: Not determined

Specific Gravity (water = 1): 1,00

Evaporation Rate (water = 1): 1,0

Volatile Organic Compounds Content: Not determined

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

Solubility:

Water: Soluble

Acid: 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: Exposure to light. Extreme temperatures

Reactivity / Incompatibility: None reported

Hazardous Decomposition: Heating to decomposition releases: carbon monoxide carbon dioxide silver oxides

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:

LD50: None reported

LC50: None reported

Dermal Toxicity Data: Isopropanol: Skin rabbit LD50 = 12800 mg/kg

Skin and Eye Irritation Data: Isopropanol: Skin rabbit 500 mg - MILD, Eye rabbit 100 mg/24H - MODERATE; Silver Nitrate Eye rabbit 10 mg - MODERATE

Mutation Data: Silver Nitrate: DNA inhibition in human lymphocytes @ 76 µmol/l, Oncogenic transformation in hamster embryo @ 60 µmol/l; Isopropanol: Cytogenetic analysis rat inhalation 1030 µg/m³/16W (Intermittent)

Reproductive Effects Data: Isopropanol: Oral rat TDLo = 11340 mg/kg - maternal effects - menstrual cycle changes or disorders; Oral rat TDLo = 5040 mg/kg - Litter size; Oral rat TDLo = 20160 mg/kg - Pre-implantation mortality

Isopropanol: Inhalation rat TCLo = 3500 ppm/7H - Embryo or fetus death; Inhalation rat TCLo = 10000 ppm/7H - Pre-implantation mortality, post-implantation mortality, embryo or fetus death

Ingredient Toxicological Data: Isopropyl Alcohol: Oral rat LD₅₀ = 5045 mg/kg, Oral human LD_{Lo} = 2770 mg/kg, Inhalation rat LCLo = 12000 ppm/8H; Silver Nitrate: Oral mouse LD₅₀ = 50 mg/kg

An ingredient of this mixture is: IARC Group 3: Non-classifiable
Isopropanol

12. ECOLOGICAL INFORMATION

Product Ecological Information: --

No ecological data available for this product.

Ingredient Ecological Information: Isopropanol: Goldfish LD50 = 5000 mg/L/24 hr, Brown Shrimp LC50 = 1400 mg/L/48 hr, Fathead Minnows LC50 = 11160 mg/L/24 hr; Silver Nitrate: Rainbow Trout LC50 = 10 µg/l/28 days; Largemouth Bass LC50 = 110 µg/l/8 days

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: R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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. TLV's Threshold Limit Values and Biological Exposure Indices for 1992 -1993. American Conference of Governmental Industrial Hygienists, 1992. Technical Judgment. In-house information. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993.

R PHRASES: R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Use of the substance/preparation: Determination of chloride

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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