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

MSDS No: M00698

SAFETY DATA SHEET

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

Product Name: Ascorbic Acid Titrant
Catalog Number: 2308232

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

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

SDS Number: M00698
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Determination of ascorbic acid
CAS No.: Not applicable
Hazard: Causes eye burns. 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 -02 66101029, Netherlands: +31 -(0)30 -2748888, Switzerland: +41 -(0)1 -2515151

2. COMPOSITION / INFORMATION ON I NGREDIENTS

Propylene Glycol
EEC Number: 2003380
CAS No.: 57-55-6
Percent Range: 15,0 - 25,0
Percent Range Units: volume / volume
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicab le
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: Not established

Potassium Hydroxide
EEC Number: 2151813
CAS No.: 1310-58-3
Percent Range: < 0,5
Percent Range Units: weight / volume
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: 2 mg/m ^{3} Ceiling
PEL: 2 mg/m ^{3} Ceiling
EU Occupational Exposure Limits: 2 mg/m ^{3}

Potassium Iodide
EEC Number: 2316594
CAS No.: 7681-11-0
Percent Range: 1,0 - 5,0
Percent Range Units: weight / 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 : 3 mg/m ^{3}, Inhalable dust

Demineralized Water
EEC Number: 2317912
CAS No.: 7732185
Percent Range: 70,0 - 80,0
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

3. HAZARDS IDENTIFICATION

Emergenc y Overview:
Appearance: Clear, colorless liquid
Odor: Not determined
EU Symbols: Not applicable
R PHRASES: Not applicable

Protective Equipment:
Potential Health Effects:
Eye Contact (EC): May cause irritation
Skin Contact (EC): Non e reported
Skin Absorption (EC): None Reported
Target Organs (SA E): None Reported
Ingestion (EC): May cause iodism, which symptoms include skin rash, conjunctivitis, runny nose, sneezing, bronchitis, headache, fever and irritation of mucous me mbranes. May cause: abdominal pain nausea
Target Organs (Ing E): None Reported
Inhalation: No data reported.
Target Organs (Inh E): None Reported
Medical Conditions Aggravated: Pre -existing: Eye conditions Skin conditions
Chronic Effects: Iodines overdose, 'iodism', may cause skin rash, runny nose, headaches, fever and bronchitis.
Cancer / Reproductive Toxicity Information:
This product does NOT contain any IARC listed chemicals.

Additional Cancer / Reproductive Toxicity Information: Contains: an experimental mutagen. an experimental teratogen.
Toxicologically Synergistic Products: None reported

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with wa ter for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with soap and plenty of water. Call physician if irritation develops.
Ingestion (First Aid): Do not induce vomiting. Give 1 -2 glasses of water. Call physician immediately.
Inhalation: None required.

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, this product decomposes to form toxic gases.
Hazardous Combustion Products: Toxic fumes of: iodine compounds c arbon monoxide, carbon dioxide.
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. 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 assistan ce.
Containment Technique: Releases of this material may contaminate the environment. Stop spilled material from being released to the environment. Absorb spilled liquid with non -reactive sorbent material. Dike the spill to contain material for later disposal.
Clean -up Techni que: Cover spilled material with a dry acid, such as citric or boric. Scoop up slurry into a large beaker. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Flush reacted material to the drain with a large excess of water. Deco ntaminate the area of the spill with a weak acid solution.
Evacuation Procedure: Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin Maintain general industrial hygiene practices when using this product. Wash thoroughly after handling.
Storage: Keep container tightly closed when not in use.
Special Packaging Inst ructions: Not applicable
Use of the substance/preparation: Determination of ascorbic acid

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Use general ven tilation to minimize exposure to mist, vapor or dust. Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: safety glasses with top and side shields
Skin / Hand Protection: disposabl e latex gloves
Inhalation Protection: adequate ventilation
Precautionary Measures: Use with adequate ventilation. 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: Not determined
pH: 11,1
Vapor Pressure: Not determined
Vapor Density (air = 1): Not determined
Boiling Point: 97°C
Melting Point: freezes at -7°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): 1,03
Evaporation Rate (water = 1): 1,05
Volatile Organic Compounds Content: Not determined
Partition Coefficient (n -octanol / water): Not applicable
Solubility:

Water: Miscible
Acid: Miscible
Other: Not determine d
Metal Corrosivity:
Steel: 0,015 in/yr
Aluminum: None

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Extreme temperatures
Reactivity / Incompatibility: Incompatible with: acids
Hazardous Decomposition: Heating to decomposition releases: iodine compounds
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATIO N

Product Toxicological Data:
LD50: None reported
LC50: None reported
Dermal Toxicity Data: None reported
Skin and Eye Irritation Data: Propylene glycol: Skin human 500 mg/7D - MILD; Eye rabbit 500 mg/24H - MILD
Mutation Data: Propylene glycol:Cytogenic analysis, DNA inhibition mouse - subcutaneous - 8000 mg/kg.
Reproductive Effects Data: Propylene glycol: Intraperitoneal mouse TDLo = 100 mg/kg -fetoxicity, post implantation mortality. Potassium Iodide: Oral human wmn TDLo = 2700 mg/kg (endocri ne abnormalities in offspring)
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Ingredient Toxicological Data: Potassium hydroxide: Oral rat LD50 = 365 mg/kg; Potassium Iodide: Oral mouse LDLo = 1862 mg/kg; Propylene glycol: oral rat LD50 = 20 g/kg

This product does NOT contain any IARC l isted 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 stringen t 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 dis posed 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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ICA O 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. Pack ing 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). CCINFO RTECS. Canadian Cent re for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1 -42) Supplement 7. France: 1987. In -house information. Technical Judgment.
R PHRASES: Not applicable
Use of the substance/preparation: Determination of ascorbic acid
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 communica tion standards and regulations.

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