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

MSDS No: M00295

SAFETY DATA SHEET

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

Product Name: Amino Acid Reagent for Phosphate and Silica
Catalog Number: 193432

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

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

SDS Number: M00295
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Silica determination Phosphate determination
CAS No.: Not applicable
Hazard: Causes severe eye irritation. May be embryotoxic. Experimental carcinogen.
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 INGREDIENTS

Demineralized Water
EEC Number: 2317912
CAS No.: 7732-18-5
Percent Range: 65,0 - 75,0
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

Other component
EEC Number: Not applicable
CAS No.: Not applicable
Perce nt Range: < 1,0
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: Not established

N,N -Dimethylformamide
EEC Number: 2006795
CAS No.: 68-12-2
Percent Range: 20,0 - 30,0
Percent Range Units: volume / volume

Ingredient EEC Symbol: T - TOXIC
Ingredient R phrase(s) (R phrase detai ls given in Heading 16): R 36 R 61
TLV: 10 ppm (skin)
PEL: 10 ppm (skin)
EU Occupational Exposure Limits: 10 ppm (30 mg/m ^{3})

Sodium Metabisulfite
EEC Number: 2316730
CAS No.: 768157-4
Percent Range: 1,0 - 10,0
Percent Range Units: weight / volume
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: 5 mg/m ^{3} (ACGIH - TWA)
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m ^{3}, Inhalable dust

Sodium Sul fite
EEC Number: 2318214
CAS No.: 7757-83-7
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

3. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance: Clear, yellow liquid
Odor: Amine
EU Symbols: T - TOXIC
R P HRASES: R 61: May cause harm to the unborn child. R 36: Irritating to eyes.

Protective Equipment:
Potential Health Effects:
Eye Contact (EC): Causes severe irritation
Skin Contact (EC): May cause irritation
Skin Absorption (EC): Harmfu l if absorbed through the skin May cause kidney damage May cause liver damage May cause nausea May cause vomiting
Target Organs (SA E): Liver Kidneys
Ingestion (EC): May cause: abdominal pain nausea vomiting diarrhea blood pressure problems kidney damage liver damage
Target Organs (Ing E): Liver Kidneys
Inhalation: Harmful Effects similar to those of ingestion. May cause: respiratory tract irritati on
Target Organs (Inh E): Liver Kidneys
Medical Conditions Aggravated: Pre -existing: Liver conditions Kidney conditions
Chronic Effects: Dimethylformamide is capable of producing cumulative systemic injury when repeatedly inhaled or absorbed through the skin. Chronic overexposure may cause kidney damage liver damage
Cancer / Reproductive Toxicity Information:
An ingredient of this mixture is: IARC Group 3: Non -classifiable
Dimethylformamide Metabisulfites Sulfites
Addition al Cancer / Reproductive Toxicity Information: Contains: an experimental teratogen. an experimental mutagen. In laboratory tests, application of DMF to the skin of pregnant rats caused fetal deaths when the dosages were close to the lethal dose level for the mother.
Toxicologically Synergistic Products: Exposure to and/or consumption of alcohol may increase toxic effects of this product.

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with wat er for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.
Ingestion (First Aid): Give a slurry of powdered activated charcoal. Induce vo miting using syrup of ipecac or by sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately.
Inhalation: Remove to fresh air. Give artificial respiration if necessary. Call physician.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.
Hazardous Combustion Products: Toxic fumes of: sulfur oxides. dimethylamine nitrogen oxides. carbon monoxide, carbon dioxi de.
Fire / Explosion Hazards: May react violently with: strong oxidizers alkali metals metal nitrates chlorine / chlorine compounds nitric acid
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Not applicable
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 assistan ce.
Containment Technique: Releases of this material may contaminate the environment. Absorb spilled liquid with non - reactive sorbent material. Dike large spills to keep spilled material from entering sewage and drainage systems or bodies of water.
Clean -up Technique: Absorb spilled liquid with non -reactive sorbent material. Sweep up material. Dispose of material in an E.P.A. approved hazardous waste facility. Decontaminate the area of the spill with a soap solution.
Evacuation Procedure: E vacuate local area (15 foot radius or as directed by your facility's emergency response plan) when: any quantity 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: Protect from: heat light Keep away from: acids ox idizers alkali metals halogens halogenated hydrocarbons Store between 10° and 25°C.
Special Packaging Instructions: Not applicable
Use of the substance/preparation: Silica determination Phosphate determination

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Have a safety shower nearby. Maintain adequate ventilation to keep vapor level below TWA for chemicals in this product. Maintain general indus trial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: chemical splash goggles
Skin / Hand Protection: neoprene latex gloves lab coat
Inhalation Protection: laboratory fume hood
Precautionary Measure s: Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Protect from: heat Keep away from: acids/acid fumes oxidizers alkali metals halogenated hydrocarbons
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: Not established

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Clear, yellow liquid
Physical State: Liquid
Odor: Amine
pH: 5,8
Vapor Pressure: Not avail able
Vapor Density (air = 1): Not available
Boiling Point: 102°C; 216°F
Melting Point: Not available
Flash Point: > 100°C; 212°F
Method: Closed cup
Autoignition Temperature: Not available
Flammability Limits:
Lower Explosion Limits: Not appl icable
Upper Explosion Limits: Not applicable
Specific Gravity (water = 1): 1,065
Evaporation Rate (water = 1): 0,59
Volatile Organic Compounds Content: Not available
Partition Coefficient (n -octanol / water): Not available
Solubility:
Water: Miscible
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: Extreme temperatures Exposure to direct sunlight.
Reactivity / Incompatibility: Incompatible with: oxidizers alkali metals nitric acid metal nitrates chlorine bromine
Hazardo us Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: nitrogen oxides carbon dioxide carbon monoxide sulfur oxides
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICA L INFORMATION

Product Toxicological Data:
LD50: Oral rat LD50 > 5000 mg/kg
LC50: None reported
Dermal Toxicity Data: DMF skin rabbit LD50 = 4720 mg/kg
Skin and Eye Irritation Data: DMF eye rabbit 100 mg rinsed Draize test - SEVERE
Mutation Data : DMF Cytogenetic analysis - human - inhalation - 12300 µg/m ^{3}/Y
Reproductive Effects Data: DMF Inhalation - rat TCLo = 4 mg/m ^{3}/4H 1 -19 days after conception - Pre -implantation mortality, fetotoxicity, embryo death
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Ingredient Toxicological Data: Sodium Sulfite oral mouse LD50 = 820 mg/kg; DMF oral rat LD50 = 2800 mg/kg; DMF Inhalation mouse LC50 = 9400 mg/m ^{3}/2 hr

An ingredient of this mixture is: IARC Group 3: Non -classifiable
Dimethylformamide Metabisulfites Sulfites

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product.
Ingredient Ecological Information: Sodium sulfite - 2600 ppm/24, 48 & 96 hr/mosquito fish/TLm/fresh water; Sodium metabisulfite - 120 ppm/24, 48 & 96 hours/mosquito fish/TLm/fresh water; Dimethylformamide - 96 hour LC50 (fathead minnow) = 10,600 mg/l

13. DISPOSAL CONSIDERATIONS

NOTICE (Disposal): These dis posal 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 o f 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 INF ORMATION

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 Shippin g 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: T - TOXIC
R PHRASES: R 61: May cause harm to the unborn child. R 36: Irritating to eyes.
S PHRASES: S 53: Avoid exposure - obtain special instructions before use. S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. OTHER INFORMATION

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, F ederal 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. CCINFO RTECS. Canadian Centre fo r Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. Fire Protection Guide on Hazardous Materials, 10th Ed . Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Vo lumes 1 -42) Supplement 7. France: 1987. 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. Sax, N. Irving. Danger ous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Technical Judgment. Vendor Information.

R PHRASES: R 61: May cause harm to the unborn child. R 36: Irritating to eyes.
Use of the substance/preparation: Silica determination Phosphate determination
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.