Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Amino Acid Reagent for Phosphate and Silica
**Catalog Number:** 193449

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

Emergency Telephone Numbers:
(303) 623-5716 24 Hour Service
(515)232-2533 8am - 4pm CST

**MSDS Number:** M00295
**Chemical Name:** Not applicable
**CAS No.:** Not applicable
**Chemical Formula:** Not applicable
**Chemical Family:** Not applicable
**Hazard:** Causes severe eye irritation. May be embryotoxic. Experimental carcinogen.
**Date of MSDS Preparation:**
Day: 8
Month: 10
Year: 2002

2. COMPOSITION / INFORMATION ON INGREDIENTS

**Demineralized Water**
**CAS No.:** 7732-18-5
**TSCA CAS Number:** 7732-18-5
**Percent Range:** 65.0 - 75.0
**Percent Range Units:** volume / volume
**LD50:** None reported
**LC50:** None reported
**TLV:** Not established
**PEL:** Not established
**Hazard:** No effects anticipated.

**Other component**
**CAS No.:** Not applicable
**TSCA CAS Number:** Not applicable
**Percent Range:** < 1.0
**Percent Range Units:** weight / volume
**LD50:** Not applicable
**LC50:** Not applicable
**TLV:** Not established
**PEL:** Not established
**Hazard:** Any ingredient(s) of this product listed as "Other component(s)" is not considered a health hazard to the user of this product.

**N,N-Dimethylformamide**
**CAS No.:** 68-12-2
**TSCA CAS Number:** 68-12-2
**Percent Range:** 20.0 - 30.0
**Percent Range Units:** volume / volume
**LD50:** Oral rat LD50 = 2800 mg/kg
**LC50:** Inhalation mouse LC50 = 9400 mg/m³/2 hr
**TLV:** 10 ppm (skin)
**PEL:** 10 ppm (skin)

**Hazard:** Toxic. May be embryotoxic. Experimental carcinogen. Causes severe eye irritation.

**Sodium Metabisulfite**

CAS No.: 7681-57-4

TSCA CAS Number: 7681-57-4

Percent Range: 1.0 - 10.0

Percent Range Units: weight / volume

LD50: Oral rat LD50 = 2000 mg/kg

LC50: None reported

TLV: 5 mg/m³ (ACGIH - TWA)

PEL: 5 mg/m³ (USOSHA)

**Hazard:** May cause irritation. May cause allergic reaction.

**Sodium Sulfite**

CAS No.: 7757-83-7

TSCA CAS Number: 7757-83-7

Percent Range: 1.0 - 5.0

Percent Range Units: weight / volume

LD50: Oral mouse LD50 = 820 mg/kg

LC50: None reported

TLV: Not established

PEL: Not established

**Hazard:** May cause allergic reaction. May cause irritation.

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**3. HAZARDS IDENTIFICATION**

**Emergency Overview:**

**Appearance:** Clear, yellow liquid

**Odor:** Amine

HARMFUL IF INHALED OR ABSORBED THROUGH SKIN CAUSES EYE IRRITATION MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION

MAY CAUSE KIDNEY OR LIVER DAMAGE BASED ON ANIMAL DATA

**HMIS:**

Health: 2

Flammability: 1

Reactivity: 0

**Protective Equipment:** X - See protective equipment, Section 8.

**NFPA:**

Health: 1

Flammability: 1

Reactivity: 0

Symbol: Not applicable

**Potential Health Effects:**

**Eye Contact:** Causes severe irritation

**Skin Contact:** May cause irritation

**Skin Absorption:** Harmful if absorbed through the skin  May cause kidney damage  May cause liver damage  May cause vomiting  May cause nausea

Target Organs: Liver  Kidneys

**Ingestion:** May cause: abdominal pain  nausea  vomiting  diarrhea  blood pressure changes  liver damage  kidney damage

Target Organs: Liver  Kidneys

**Inhalation:** Effects similar to those of ingestion. May cause: respiratory tract irritation

Target Organs: 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:**

This product does NOT contain any OSHA listed carcinogens.
An ingredient of this mixture is: IARC Group 3: Nonclassifiable
Dimethylformamide  Metabisulfites  Sulfites
This product does NOT contain any NTP listed chemicals.

Additional 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

Eye Contact: Immediately flush eyes with water 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 vomiting 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.
Flash Point: > 100°C; 212°F
Method: Closed cup
Flammability Limits:
  Lower Explosion Limits: Not applicable
  Upper Explosion Limits: Not applicable
Autoginition Temperature: Not available
Fire / Explosion Hazards: May react violently with: strong oxidizers alkali metals metal nitrates chlorine/chlorine compounds nitric acid
  Static Discharge: None reported.
  Mechanical Impact: Not reported
Extinguishing Media: None reported
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 may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. 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. 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: Evacuate 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.
Special Instructions (for accidental release): Mixture contains a component which is regulated as a hazardous air pollutant.
304 EHS RQ (40 CFR 355): Not applicable
D.O.T. Emergency Response Guide Number: None

7. HANDLING / 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 oxidizers alkali metals halogens halogenated hydrocarbons Store between 10° and 25°C.

Flammability Class: Class IIIB

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 industrial hygiene practices when using this product.

Personal Protective Equipment:
- Eye Protection: chemical splash goggles
- Skin Protection: neoprene latex gloves lab coat
- Inhalation Protection: laboratory fume hood

Precautionary Measures: 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

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Clear, yellow liquid
Physical State: Liquid
Molecular Weight: Not applicable
Odor: Amine
pH: 5.8
Vapor Pressure: Not available
Vapor Density (air = 1): Not available
Boiling Point: 102°C; 216°F
Melting Point: Not available
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
Hazardous 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. TOXICOLOGICAL 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/m³/Y
Reproductive Effects Data: DMF Inhalation - rat TCLo = 4 mg/m³/4H 1-19 days after conception - Pre-implantation mortality, fetotoxicity, embryo death
Ingredient Toxicological Data: Sodium Sulfite oral mouse LD50 = 820 mg/kg; DMF oral rat LD50 = 2800 mg/kg; DMF Inhalation mouse LC50 = 9400 mg/m³/2 hr

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

EPA Waste ID Number: None
Special Instructions (Disposal): Incinerate material at an E.P.A. approved hazardous waste facility.
Empty Containers: Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.
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.

14. TRANSPORT INFORMATION

D.O.T.: Not Currently Regulated
DOT Hazard Class: NA
DOT Subsidiary Risk: NA
DOT ID Number: NA
DOT Packing Group: NA
I.C.A.O.: Not Currently Regulated
ICAO Hazard Class: NA
ICAO Subsidiary Risk: NA
ICAO ID Number: NA
ICAO Packing Group: NA
I.M.O.: Not Currently Regulated
I.M.O. Hazard Class: NA
I.M.O. Subsidiary Risk: NA
I.M.O. ID Number: NA
I.M.O. Packing Group: NA

15. REGULATORY INFORMATION

U.S. Federal Regulations:
O.S.H.A.: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)
S.A.R.A. Title III Section 313 (40 CFR 372): This product contains a chemical(s) subject to the reporting requirements of Section 313 of Title III of SARA.
Dimethylformamide 302 (EHS) TPQ (40 CFR 355): Not applicable
304 CERCLA RQ (40 CFR 302.4): Dimethylformamide 100 lbs.
304 EHS RQ (40 CFR 355): Not applicable
Clean Water Act (40 CFR 116.4): Not applicable
RCRA: Contains no RCRA regulated substances.
C.P.S.C.: Not applicable
State Regulations:
   California Prop. 65: No Prop. 65 listed chemicals are present in this product.
   Identification of Prop. 65 Ingredient(s): None
Trade Secret Registry: Not applicable
National Inventories:
   U.S. Inventory Status: All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).
   TSCA CAS Number: Not applicable

16. OTHER INFORMATION

   Intended Use: Silica determination  Phosphate determination

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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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