SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UND ERTAKING

Product Name: Amino Acid F Reagent
Catalog Number: 2254069

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: M00115
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Indicator for silica
CAS No.: Not applicable
Hazard: Allergen May cause irritation.

Date of MSDS Preparation:
Day: 19
Month: April
Year: 2007

Additional Emergency Response Numbers: Austria: +49 (0)6131 19240, Belgium: +32 -(0)70 -245245,
France: +33 -(0)1 -40370404, Italy: +39 -(0)2-66101029, Netherlands: +31 -(0)30 -2748888, Switzerland: +41 -(0)1 -2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Fast Amino Acid (Trade Secret)

EEC Number: Confidential
CAS No.: Confidential
Percent Range: 1,0 - 5,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: Handle as a nuisance dust.
PEL: Handle as a nuisance dust.

EU Occupational Exposure Limits: 3 mg/m 3, Inhalable dust

Sodium Metabisulfite

EEC Number: 2316730
CAS No.: 7681 -57-4
Percent Range: 90,0 - 100,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: Xn - HARMFUL
Ingredient R phrase(s) (R phrase details given in Heading 16): R 22 R 31 R 41
TLV: 5 mg/m 3 (ACGIH - TWA)
PEL: Not established
3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Tan to Green powder
Odor: None
EU Symbols: Xn - HARMFUL
R PHRASES: R 22: Harmful if swallowed. R 31: Contact with acids liberates toxic gas. R 41: Risk of serious damage to eyes.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): Causes irritation
Skin Contact (EC): Causes irritation
Skin Absorption (EC): None Reported
Target Organs (SAE): None Reported

Ingestion (EC): Causes: irritation of the mouth and esophagus. May cause allergic respiratory reaction if swallowed or inhaled. May cause: abdominal pain, diarrhea, vomiting, headache, central nervous system depression, circulatory collapse, respiratory arrest, death.
Target Organs (Ing E): Central nervous system, Gastrointestinal tract

Inhalation: Causes: irritation of the nose and throat. May cause allergic respiratory reaction.
Target Organs (Inh E): Central nervous system

Medical Conditions Aggravated: Pre-existing: Eye conditions, Skin conditions, Respiratory conditions. Sulfites are strong sensitizers. Inhalation and ingestion may cause allergic respiratory reactions in asthmatics. Persons with respiratory conditions should take special care when working with products that contain sulfites.

Chronic Effects: Chronic overexposure may cause allergic respiratory reactions, respiratory tract damage. Chronic ingestion of sodium metabisulfite caused anemia and reduced body weight gain in experimental animals.

Cancer / Reproductive Toxicity Information:

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

Additional Cancer / Reproductive Toxicity Information: Sodium metabisulfite has shown positive results in screening tests for mutagenicity.

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): Do not induce vomiting. Give 1-2 glasses of water under medical supervision. Call physician immediately. Never give anything by mouth to an unconscious person.
Inhalation: Remove to fresh air. Give artificial respiration if necessary. Call physician.

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, this product decomposes to form toxic gases.
Hazardous Combustion Products: Toxic fumes of: sulfur oxides, carbon monoxide, carbon dioxide, nitrogen oxides, sodium oxides
Fire / Explosion Hazards: May react violently with strong oxidizers
Static Discharge: None reported.
Mechanical Impact: None reported.
Extinguishing Media: Carbon dioxide  Dry chemical. Alcohol foam.
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: Stop spilled material from being released to the environment. Cover spilled solid material with sand or other inert material.
Clean-up Technique: Scoop up spilled material into a large beaker and dissolve with water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Filter to remove solids. Flush reacted material to the drain with a large excess of water.
Evacuation Procedure: Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) when: a pound or more of loose powder 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 dust. Wash thoroughly after handling.
Maintain general industrial hygiene practices when using this product.
Storage: Protect from: moisture oxidizers acids/acid fumes.
Special Packaging Instructions: Not applicable
Use of the substance/preparation: Indicator for silica

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Use general ventilation 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: disposable latex gloves lab coat
Inhalation Protection: adequate ventilation
Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: dust Wash thoroughly after handling. Protect from: oxidizers acids/acid fumes
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Tan to Green powder
Physical State: Solid
Odor: None
pH: of 5% solution = 4.3
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Boiling Point: Not applicable
Melting Point: Decomposes
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): 1.48
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not applicable
Partition Coefficient (n-octanol / water): Not applicable
Solubility:
  Water: Mostly soluble
  Acid: Soluble in HCl and H₂SO₄ solutions
  Other: Soluble in NaOH solutions
Metal Corrosivity:
  Steel: 0.033 in/yr
  Aluminum: 0.001 in/yr

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Heating to decomposition. Excess moisture
Reactivity / Incompatibility: May react violently in contact with: acids oxidizers
Hazardous Decomposition: Toxic fumes of: carbon dioxide carbon monoxide sulfur oxides
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
  LD₅₀: None reported
  LC₅₀: None reported
Dermal Toxicity Data: Sodium metabisulfite: dermal guinea pig LD₅₀ > 1000 mg/kg.
Skin and Eye Irritation Data: None reported
Mutation Data: Sodium metabisulfite has shown positive results in screening tests for mutagenicity.
  Sodium metabisulfite: Cytogeneic analysis hamster ovary 180 µg/L; Sister chromatid exchange on hamster ovary at 200 µg/L.
Reproductive Effects Data: Sodium metabisulfite: Oral rat TDLo= 20 g/Kg Effects on newborn - stillbirth;
  Oral rat TDLo= 40 g/Kg Effects on newborn - weaning or lactation index.

Ingredient Toxicological Data:
  Amino Acid F: Oral rat LD₅₀ > 2,000 mg/Kg; Sodium metabisulfite: Oral rat LD₅₀ = 1131 mg/Kg
  An ingredient of this mixture is: IARC Group 3: Non-classifiable Metabisulfites

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 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
14. TRANSPORT INFORMATION

I.C.A.O.:  
I.C.A.O. Proper Shipping Name: Not Currently Regulated

I.CAO Hazard Class: NA
I.CAO Subsidiary Risk: NA
I.CAO UN/ID Number: NA
I.CAO 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.
EEC Number: Not applicable

EEC LABEL COPY:
EU Symbols: Xn - HARMFUL
R PHRASES: R 22: Harmful if swallowed. R 31: Contact with acids liberates toxic gas. R 41: Risk of serious damage to eyes.
S PHRASES: S 25: Avoid contact with eyes. S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 39: Wear eye / face protection. S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. OTHER INFORMATION

R PHRASES:  R 22: Harmful if swallowed.  R 31: Contact with acids liberates toxic gas.  R 41: Risk of serious damage to eyes.

Use of the substance/preparation:  Indicator for silica

Revision Summary:  European MSDS Only  Updates in Heading(s) 2,

**Legend:**
- NA - Not Applicable
- ND - Not Determined
- NV - Not Available

- w/w - weight/weight
- w/v - weight/volume
- 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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