

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

MSDS No: M00099

# SAFETY DATA SHEET

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

**Product Name:** Phthalate-Phosphate Reagent Powder Pillows  
**Catalog Number:** 2150166

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:** M00099

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**Use of the substance/preparation:** Determination of nickel Determination of cobalt

**CAS No.:** Not applicable

**Hazard:** Causes 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: +39-0266101029, Netherlands: +31 -(0)30-2748888, Switzerland: +41-(0)1-2515151

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Sodium Pyrophosphate

**EEC Number:** 2317671

**CAS No.:** 13472-36-1

**Percent Range:** 20,0 - 30,0

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Not applicable

**Ingredient R phrase(s) (R phrase details given in Heading 16):** Not applicable

**TLV:** 5 mg/m<sup>3</sup>

**PEL:** 5 mg/m<sup>3</sup>

**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

### Potassium Acid Phthalate

**EEC Number:** 2128894

**CAS No.:** 877-24-7

**Percent Range:** 70,0 - 80,0

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Not applicable

**Ingredient R phrase(s) (R phrase details given in Heading 16):** Not applicable

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

## 3. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** White powder  
**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):** May cause irritation

**Skin Absorption (EC):** No effects anticipated

**Target Organs (SA E):** Not applicable

**Ingestion (EC):** Very large doses may cause: nausea vomiting paresthesias (tingling or burning sensation) of the hands and feet diarrhea abdominal cramps abdominal pain irritation of the mouth and esophagus

**Target Organs (Ing E):** None Reported

**Inhalation:** May cause: coughing choking respiratory tract irritation

**Target Organs (Inh E):** None Reported

**Medical Conditions Aggravated:** Pre-existing: Eye conditions Skin conditions Respiratory conditions

**Chronic Effects:** None reported

**Cancer / Reproductive Toxicity Information:**

This product does NOT contain any IARC listed chemicals.

**Additional Cancer / Reproductive Toxicity Information:** None reported

**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. Call physician if irritation develops.

**Ingestion (First Aid):** Give large quantities of water. Call physician immediately.

**Inhalation:** Remove to fresh air.

---

#### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Can burn in fire, releasing toxic vapors.

**Hazardous Combustion Products:** Toxic fumes of: phosphorus oxides sodium monoxide carbon 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.

---

#### 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.

**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. Flush reacted material to the drain with a large excess of water. 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: 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 Do not breathe dust. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

**Storage:** Protect from: heat Keep away from: oxidizers  
**Special Packaging Instructions:** Not applicable  
**Use of the substance/preparation:** Determination of nickel Determination of cobalt

---

## 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:** disposable latex gloves

**Inhalation Protection:** adequate ventilation

**Precautionary Measures:** Avoid contact with: eyes skin Do not breathe: dust Wash thoroughly after handling. Protect from: heat Keep away from: oxidizers

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

---

## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** White powder

**Physical State:** Solid

**Odor:** Not determined

**pH:** 5% solution = 4,9

**Vapor Pressure:** Not applicable

**Vapor Density (air = 1):** Not applicable

**Boiling Point:** Not applicable

**Melting Point:** 230°C; 446°F

**Flash Point:** Not applicable

**Method:** Not applicable

**Autoignition Temperature:** Not available

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Specific Gravity (water = 1):** 1,74

**Evaporation Rate (water = 1):** Not applicable

**Volatile Organic Compounds Content:** Not applicable

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

**Solubility:**

**Water:** Soluble

**Acid:** Soluble

**Other:** Not determined

**Metal Corrosivity:**

**Steel:** 0,009 in/year

**Aluminum:** 0,014 in/year

---

## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.

**Conditions to Avoid:** Excess moisture Extreme temperatures

**Reactivity / Incompatibility:** None reported

**Hazardous Decomposition:** Heating to decomposition releases toxic and/or corrosive fumes of: phosphorus oxides carbon monoxide carbon dioxide

**Hazardous Polymerization:** Will not occur.

---

## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**

**LD50:** None reported

**LC50:** None reported

*Dermal Toxicity Data:* None reported  
*Skin and Eye Irritation Data:* None reported  
*Mutation Data:* None reported  
*Reproductive Effects Data:* None reported

--  
*Ingredient Toxicological Data:* Sodium Pyrophosphate Oral rat LD50 = 4000 mg/kg; Potassium Acid Phthalate Oral rat LDLo = 3200 mg/kg

This product does NOT contain any IARC listed 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 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

--

*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 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). 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. In-house information. Technical Judgment.

*R PHRASES:* Not applicable

*Use of the substance/preparation:* Determination of nickel Determination of cobalt

*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.**

**HACH COMPANY ©2006**

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

MSDS No: M00487

## SAFETY DATA SHEET

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

**Product Name:** PAN Indicator Solution 0,3%  
**Catalog Number:** 2150232

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:** M00487

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**Use of the substance/preparation:** Determination of nickel

**CAS No.:** Not applicable

**Hazard:** Causes severe eye irritation. May be embryotoxic.

**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: +39-0266101029, Netherlands: +31 -(0)30-2748888, Switzerland: +41-(0)1-2515151

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

#### N,N-Dimethylformamide

**EEC Number:** 2006795

**CAS No.:** 68122

**Percent Range:** 55,0 - 65,0

**Percent Range Units:** volume / volume

**Ingredient EEC Symbol:** T - TOXIC

**Ingredient R phrase(s) (R phrase details given in Heading 16):** R 20/21 R 61 R 36

**TLV:** 10 ppm (skin)

**PEL:** 10 ppm (skin)

**EU Occupational Exposure Limits:** 10 ppm (30 mg/m<sup>3</sup>)

#### 1-(2-Pyridylazo)-2-naphthol

**EEC Number:** 2016379

**CAS No.:** 85858

**Percent Range:** 0,1 - 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:** 3 mg/m<sup>3</sup>, Inhalable dust

#### Octylphenoxypolylethoxethanol

**EEC Number:** Not Applicable

**CAS No.:** Not Applicable

**Percent Range:** 25,0 - 35,0

**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

#### **Demineralized Water**

**EEC Number:** 2317912  
**CAS No.:** 7732185  
**Percent Range:** 5,0 - 15,0  
**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**

#### ***Emergency Overview:***

**Appearance:** Clear, red-orange liquid  
**Odor:** Amine  
**EU Symbols:** T - TOXIC  
**R PHRASES:** R 61: May cause harm to the unborn child. R 20/21: Harmful by inhalation and in contact with skin. R 36: Irritating to eyes.

#### ***Protective Equipment:***

#### ***Potential Health Effects:***

**Eye Contact (EC):** Causes irritation  
**Skin Contact (EC):** May cause irritation  
**Skin Absorption (EC):** Harmful 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 irritation  
**Target Organs (Inh E):** Liver Kidneys  
**Medical Conditions Aggravated:** Pre-existing: Eye conditions Skin conditions Respiratory conditions Liver conditions Kidney conditions  
**Chronic Effects:** Dimethylformamide is capable of producing cumulative systemic injury when repeatedly inhaled or absorbed through the skin.  
**Cancer / Reproductive Toxicity Information:**  
IARC Group 3: Non-classifiable  
Dimethylformamide  
**Additional Cancer / Reproductive Toxicity Information:** Contains: an experimental carcinogen. an experimental mutagen. an experimental teratogen. 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. Reports of increased possibilities of facial flushing from inhalation of vapors after ingestion of alcohol. Effects resemble porphyria.

---

### **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.  
**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:** Combustible Liquid This material does NOT sustain combustion when tested according to the UN Recommendation's "Methods of Testing for Combustibility".

**Hazardous Combustion Products:** Toxic fumes of: carbon monoxide, carbon dioxide. dimethylamine

**Fire / Explosion Hazards:** Combustible liquid

**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. Remove all combustible material from spill area. Remove all ignition and spark-creating sources from the spill area. Cover spilled liquid with a commercially available flammable liquid sorbent such as vapor barrier blanket or activated carbon to avoid evolution of fumes. Vapors may travel to a source of ignition and flash back. May be ignited by: heat, sparks, or flames.

**Clean-up Technique:** Eliminate all sources of ignition. Do not breathe the fumes. Cover with an inert material, such as sand. Use only non-sparking tools. Sweep up material. Incinerate material at 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.

---

## 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: oxidizers heat halogenated hydrocarbons metals

**Special Packaging Instructions:** Not applicable

**Use of the substance/preparation:** Determination of nickel

---

## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** Have an eyewash station nearby. Use a fume hood to avoid exposure to dust, mist or vapor. 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 neoprene latex gloves

**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 halogenated hydrocarbons oxidizers metals

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** Not established

---

## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, red-orange liquid

**Physical State:** Liquid

**Odor:** Amine

**pH:** 9,45

**Vapor Pressure:** Not determined

**Vapor Density (air = 1):** Not determined

**Boiling Point:** 103°C (217,4°F)



**Melting Point:** Not determined  
**Flash Point:** 61 - 63 ° C ( 141 - 145 ° F )  
**Method:** Closed cup  
**Autoignition Temperature:** Not determined  
**Flammability Limits:**  
    **Lower Explosion Limits:** Not determined  
    **Upper Explosion Limits:** Not determined  
**Specific Gravity (water = 1):** 1,006  
**Evaporation Rate (water = 1):** 0,594  
**Volatile Organic Compounds Content:** Not determined  
**Partition Coefficient (n-octanol / water):** Not applicable  
**Solubility:**  
    **Water:** Soluble  
    **Acid:** Soluble  
    **Other:** Not determined  
**Metal Corrosivity:**  
    **Steel:** 0,0007 in/yr  
    **Aluminum:** Not determined

---

## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.  
**Conditions to Avoid:** Contact with heat, sparks, open flames or other ignition sources. Extreme temperatures  
**Reactivity / Incompatibility:** Incompatible with: halogenated organic compounds May react violently in contact with: oxidizers  
**Hazardous Decomposition:** Toxic fumes of: carbon monoxide carbon dioxide  
**Hazardous Polymerization:** Will not occur.

---

## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**  
    **LD50:** None reported  
    **LC50:** None reported  
    **Dermal Toxicity Data:** None reported  
    **Skin and Eye Irritation Data:** None reported  
    **Mutation Data:** Dimethylformamide: Cytogenic analysis - human - inhalation - 12300 µg/m<sup>3</sup>/Y, Cytogenetic analysis - human - lymphocytes - 100 nmol/l  
    **Reproductive Effects Data:** Dimethylformamide: Inhalation rat TCLo= 4 mg/m<sup>3</sup>/4H 1-19 days after conception - Pre-implantation mortality, fetotoxicity, embryo death  
    --  
**Ingredient Toxicological Data:** Dimethylformamide: Oral rat LD<sub>50</sub> = 2800 mg/kg, Skin rabbit LD<sub>50</sub> = 4720 mg/kg;  
Octylphenoxypolyethoxyethanol: Oral rat LD<sub>50</sub> = 1800 mg/kg  
  
IARC Group 3: Non-classifiable  
Dimethylformamide

---

## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** --  
No ecological data available for this product.  
**Ingredient Ecological Information:** Octylphenoxypolyethoxyethanol: Bluegill sunfish (Lepomis macrochirus) 96 hour dynamic > 10 mg/l (Slightly toxic)

---

## 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

--

*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 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:* T - TOXIC

**R PHRASES:** R 61: May cause harm to the unborn child. R 20/21: Harmful by inhalation and in contact with skin. R 36: Irritating to eyes.

**S PHRASES:** S 25: Avoid contact with eyes. 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, 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. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1-42) Supplement 7. France: 1987. 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. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993.

**R PHRASES:** R 61: May cause harm to the unborn child. R 20/21: Harmful by inhalation and in contact with skin. R 36: Irritating to eyes.

**Use of the substance/preparation:** Determination of nickel

**Revision Summary:** Updates in Section(s) 14,

---

### 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.**

**HACH COMPANY ©2006**

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

MSDS No: M00043

## SAFETY DATA SHEET

---

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

**Product Name:** EDTA Reagent Powder  
**Catalog Number:** 700599

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:** M00043

**Chemical Name:** Glycine, N,N'-1,2-ethanediyibis[N-(carboxymethyl)-, Tetrasodium Salt

**Chemical Formula:** C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>Na<sub>4</sub>O<sub>8</sub> 2H<sub>2</sub>O

**Chemical Family:** Substituted organic acid

**Use of the substance/preparation:** Laboratory Reagent

**CAS No.:** 64-02-8

**Hazard:** May cause irritation.

**Date of MSDS Preparation:**

**Day:** 08

**Month:** May

**Year:** 2007

**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

#### **EDTA Tetrasodium Salt**

**EEC Number:** 2005739

**CAS No.:** 64-02-8

**Percent Range:** 100,0

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Xi - IRRITATING

**Ingredient R phrase(s) (R phrase details given in Heading 16):** R 36/37/38

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

---

### 3. HAZARDS IDENTIFICATION

#### **Emergency Overview:**

**Appearance:** White powder

**Odor:** None

**EU Symbols:** Xi - IRRITATING

**R PHRASES:** R 36/37/38: Irritating to eyes, respiratory system and skin.

**Protective Equipment:**

**Potential Health Effects:**

**Eye Contact (EC):** Causes moderate irritation

**Skin Contact (EC):** Causes moderate irritation

**Skin Absorption (EC):** No effects anticipated

**Target Organs (SA E):** Not applicable

**Ingestion (EC):** May cause: calcium deficiency in the blood Very large doses may cause: gastrointestinal tract irritation fever kidney damage

**Target Organs (Ing E):** Kidneys

**Inhalation:** May cause: irritation of nose and throat

**Target Organs (Inh E):** None Reported

**Medical Conditions Aggravated:** None reported

**Chronic Effects:** Chronic overexposure may cause kidney damage

**Cancer / Reproductive Toxicity Information:**

IARC Listed: No

**Additional Cancer / Reproductive Toxicity Information:** None reported

**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 plenty of water. Call physician if irritation develops.

**Ingestion (First Aid):** Give large quantities of water. Call physician immediately.

**Inhalation:** Remove to fresh air.

---

## 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Can burn in fire, releasing toxic vapors.

**Hazardous Combustion Products:** Toxic fumes of: carbon monoxide, carbon dioxide, nitrogen oxides, sodium monoxide

**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.

---

## 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 acid, such as sulfuric or citric. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a weak acid 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 Do not breathe dust. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

**Storage:** Protect from: heat moisture

**Special Packaging Instructions:** Not applicable

**Use of the substance/preparation:** Laboratory Reagent

---

## 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:** disposable latex gloves lab coat

**Inhalation Protection:** adequate ventilation

**Precautionary Measures:** Avoid contact with: eyes skin Do not breathe: dust Wash thoroughly after handling. Protect from: heat moisture

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

---

## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** White powder

**Physical State:** Solid

**Odor:** None

**pH:** of a 1% solution = 11

**Vapor Pressure:** Not applicable

**Vapor Density (air = 1):** Not applicable

**Boiling Point:** Not applicable

**Melting Point:** > 300 °C >572 °F

**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):** Not determined

**Evaporation Rate (water = 1):** Not applicable

**Volatile Organic Compounds Content:** Not determined

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

**Solubility:**

**Water:** Soluble

**Acid:** Not determined

**Other:** Soluble in alcohol

**Metal Corrosivity:**

**Steel:** 0,000 in/yr

**Aluminum:** 0,000 in/yr

---

## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.

**Conditions to Avoid:** Extreme temperatures Excess moisture

**Reactivity / Incompatibility:** Incompatible with: oxidizers

**Hazardous Decomposition:** Heating to decomposition releases toxic and/or corrosive fumes of: carbon dioxide carbon monoxide nitrogen oxides

**Hazardous Polymerization:** Will not occur.

---

## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**

**LD50:** None reported

**LC50:** None reported

**Dermal Toxicity Data:** None reported

**Skin and Eye Irritation Data:** Skin rabbit 500mg/24H, MODERATE; Eye rabbit 1900µg; Eye rabbit 100mg/24H, MODERATE

**Mutation Data:** None reported

**Reproductive Effects Data:** None reported

--

**Ingredient Toxicological Data:** Not applicable

IARC Listed: No

---

## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** BOD 0.02 g/g; COD 0.54 g/g; Fish toxicity: Bluegill LC50 = 410 mg/l for 96 hours.

**Ingredient Ecological Information:** --

Not applicable

---

## 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

--

**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 Shipping Name: Chemical Kit Hazard Class: 9 UN Number 3316

---

## 15. REGULATORY INFORMATION

**National Inventories:**

**EEC Inventory Status:** EINECS Listed: Yes

**EEC Number:** 2005739

**EEC LABEL COPY:**

**EU Symbols:** Xi - IRRITATING

**R PHRASES:** R 36/37/38: Irritating to eyes, respiratory system and skin.

**S PHRASES:** S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 36: Wear suitable protective clothing.

---

## 16. OTHER INFORMATION

**References:** TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Technical Judgment. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. In-house information. Vendor Information.

**R PHRASES:** R 36/37/38: Irritating to eyes, respiratory system and skin.

**Use of the substance/preparation:** Laboratory Reagent

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

---

### 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.**

HACH COMPANY ©2007