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MSDS No: M00190

# SAFETY DATA SHEET

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

**Product Name:** Chloroform  
**Catalog Number:** 1445817

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:** M00190

**Chemical Name:** Methane, trichloro-

**Chemical Formula:** CHCl<sub>3</sub>

**Chemical Family:** Halogenated Hydrocarbons

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

**CAS No.:** 67-66-3

**Hazard:** Toxic. Vapors harmful. 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: +39-0266101029, Netherlands: +31 -(0)30-2748888, Switzerland: +41-(0)1-2515151

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Chloroform

**EEC Number:** 2006638

**CAS No.:** 67663

**Percent Range:** 100,0

**Percent Range Units:** volume / volume

**Ingredient EEC Symbol:** Xn - HARMFUL

**Ingredient R phrase(s) (R phrase details given in Heading 16):** R 48/20/22 R 22 R 38 R 40

**TLV:** TWA = 10 ppm (49 mg/m<sup>3</sup>)

**PEL:** C: 50 ppm (C: 240 mg/m<sup>3</sup>)

**EU Occupational Exposure Limits:** 2 ppm (10 mg/m<sup>3</sup>) Skin notation (Recommended)

## 3. HAZARDS IDENTIFICATION

### **Emergency Overview:**

**Appearance:** Clear, colorless

**Odor:** Ether-like

**EU Symbols:** Xn - HARMFUL

**R PHRASES:** R 22: Harmful if swallowed. R 38: Irritating to skin. R 40: Limited evidence of a carcinogenic effect.

R 48/20/22: Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

### **Protective Equipment:**

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

**Eye Contact (EC):** May cause irritation

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

**Skin Absorption (EC):** Causes central nervous system depression Causes kidney damage Causes liver damage

**Target Organs (SA E):** Central nervous system Kidneys Liver  
**Ingestion (EC):** Causes: central nervous system depression kidney damage liver damage  
**Target Organs (Ing E):** Central nervous system Kidneys Liver  
**Inhalation:** Causes: central nervous system depression kidney damage liver damage  
**Target Organs (Inh E):** Central nervous system Kidneys Liver  
**Medical Conditions Aggravated:** Pre-existing: Central nervous system diseases Kidney conditions Liver conditions  
**Chronic Effects:** None reported  
**Cancer / Reproductive Toxicity Information:**  
IARC Group 2B: Experimental Carcinogen  
Chloroform  
**Additional Cancer / Reproductive Toxicity Information:** Contains: a recognized teratogen. an experimental mutagen.  
**Toxicologically Synergistic Products:** Exposure to and/or consumption of alcohol may increase toxic effects of this product.

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#### 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):** Do not induce vomiting. Call physician immediately.  
**Inhalation:** Remove to fresh air. Give artificial respiration if necessary. Call physician.

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#### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Material will not burn. During a fire, corrosive and toxic gases may be generated by thermal decomposition.  
**Hazardous Combustion Products:** This material will not burn.  
**Fire / Explosion Hazards:** May react violently with: alkali metals aluminum / aluminum compounds strong bases  
**Static Discharge:** None reported.  
**Mechanical Impact:** None reported  
**Extinguishing Media:** Carbon dioxide Alcohol foam. 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. Evacuate area and fight fire from a safe distance. Water runoff can cause environmental damage. Dike and collect water used to fight fire.

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#### 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. Absorb spilled liquid with non-reactive sorbent material. Stop spilled material from being released to the environment. Dike the spill to contain material for later disposal.  
**Clean-up Technique:** Cover with an inert material, such as sand. 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 general area (50 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. Deny access to unnecessary and unprotected personnel. If conditions warrant, increase the size of the evacuation.

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#### 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes skin clothing Do not breathe mist or vapors. Wash thoroughly after handling. Use with adequate ventilation. Maintain general industrial hygiene practices when using this product.  
**Storage:** Protect from: light air Store in a cool, well-ventilated place. Keep away from: alkali metals alkalies  
**Special Packaging Instructions:** Not applicable  
**Use of the substance/preparation:** Laboratory Reagent

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#### 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** Have an eyewash station nearby. Have a safety shower 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:** chemical splash goggles

**Skin / Hand Protection:** lab coat pva (polyvinyl alcohol) gloves

**Inhalation Protection:** laboratory fume hood

**Precautionary Measures:** Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Use with adequate ventilation. Keep away from: alkali metals alkalies

**TLV:** TWA = 10 ppm (49 mg/m<sup>3</sup>)

**PEL:** C: 50 ppm (C: 240 mg/m<sup>3</sup>)

**EU Occupational Exposure Limits:** 2 ppm (10 mg/m<sup>3</sup>) Skin notation (Recommended)

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, colorless

**Physical State:** Liquid

**Odor:** Ether-like

**pH:** Not determined.

**Vapor Pressure:** 159 mm Hg @ 20°C (68°F).

**Vapor Density (air = 1):** 4,1 (at boiling point of chloroform).

**Boiling Point:** 61°C (142°F).

**Melting Point:** -64°C (-83,2°F).

**Flash Point:** Not applicable

**Method:** Not applicable

**Autoignition Temperature:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Specific Gravity (water = 1):** 1,49 @ 20°C (68°F).

**Evaporation Rate (water = 1):** Not determined. The evaporation rate where: (ether=1) = 0,6; (butyl acetate=1) = 11,6.

**Volatile Organic Compounds Content:** 100%.

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

**Solubility:**

**Water:** 1ml in 200ml water @ 25°C (77°F).

**Acid:** Not determined.

**Other:** Alcohol, Benzene, Ether, Carbon Tetrachloride, Carbon Disulfide.

**Metal Corrosivity:**

**Steel:** Not determined.

**Aluminum:** Not determined.

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## 10. STABILITY / REACTIVITY

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

**Conditions to Avoid:** Exposure to air. Exposure to light. Extreme temperatures Heating to decomposition.

**Reactivity / Incompatibility:** Incompatible with: alkali metals alkalies aluminum caustics coatings (such as paint, varnish, wax, lacquer, etc.) plastics rubber

**Hazardous Decomposition:** Heating to decomposition releases toxic and/or corrosive fumes of: phosgene chlorides carbon monoxide

**Hazardous Polymerization:** Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**

**LD50:** Oral rat LD<sub>50</sub> = 695 mg/kg; Oral mouse LD<sub>50</sub> = 36 mg/kg.

**LC50:** Inhalation rat LC<sub>50</sub> = 47702 mg/m<sup>3</sup>/4hrs.

**Dermal Toxicity Data:** Skin rabbit LD<sub>50</sub> = >20g/kg.

**Skin and Eye Irritation Data:** Skin rabbit (Standard Draize test) 500 mg/24hrs = MILD; Skin rabbit (Open Draize test) 10 mg/24hrs = MILD; Eye rabbit (Standard Draize test) 20 mg/24hrs = MODERATE.

**Mutation Data:** Sister chromatid exchange in human lymphocytes @ 10 mmol/l; Cytogenetic analysis of rat @ 597 mg/kg/5D (intermittent oral administration); DNA damage in mammalian lymphocytes @ 1 mmol/l; More data reported in RTECS.

**Reproductive Effects Data:** Oral rat TDLo (female) = 1260 mg/kg (Fetotoxicity; Musculoskeletal abnormalities); Inhalation rat TCLo (female) = 30 ppm/7H (Fertility effects; Fetotoxicity; Musculoskeletal abnormalities); Oral mouse TDLo (male) = 2177 mg/kg (Reduced weight gain in newborn; Biochemical and metabolic effects on newborn); More data reported in RTECS.

**Ingredient Toxicological Data:** --

Not applicable

IARC Group 2B: Experimental Carcinogen

Chloroform

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## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** --

No ecological data available for this product.

**Ingredient Ecological Information:** --

Not applicable

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## 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.

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## 14. TRANSPORT INFORMATION

**I.C.A.O.:**

**I.C.A.O. Proper Shipping Name:** Chloroform

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**ICAO Hazard Class:** 6,1

**ICAO Subsidiary Risk:** NA

**ICAO UN/ID Number:** UN1888

**ICAO Packing Group:** III

**I.M.O.:**

**I.M.O. Proper Shipping Name:** Chloroform

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**I.M.O. Hazard Class:** 6,1

**I.M.O. Subsidiary Risk:** NA

**I.M.O. UN Number:** UN1888

**I.M.O. Packing Group:** III

**A.D.R.:**

**A.D.R. Proper Shipping Name:** Chloroform

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**A.D.R. Hazard Class:** 6,1

**A.D.R. Subsidiary Risk:** NA

**A.D.R. UN-Number:** 1888

**A.D.R. Packing Group:** III

**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

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## 15. REGULATORY INFORMATION

**National Inventories:**

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

**EEC Number:** 2006638

**EEC LABEL COPY:**

**EU Symbols:** Xn - HARMFUL

**R PHRASES:** R 22: Harmful if swallowed. R 38: Irritating to skin. R 40: Limited evidence of a carcinogenic effect. R 48/20/22: Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

**S PHRASES:** S 36/37: Wear suitable protective clothing and gloves.

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## 16. OTHER INFORMATION

**References:** Vendor Information. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. Technical Judgment. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Sixth Annual Report on Carcinogens, 1991. U.S. Department of Health and Human Services. Rockville, MD: Technical Resources, Inc. 1991. NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards. Cincinnati: Department of Health and Human Services, 1981. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. 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. Cassaret and Doull's Toxicology, 3rd Ed. New York: Macmillan Publishing Co., Inc., 1986. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). EU Occupational Exposure Limits On Line.

**R PHRASES:** R 22: Harmful if swallowed. R 38: Irritating to skin. R 40: Limited evidence of a carcinogenic effect. R 48/20/22: Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

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

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

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### 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.**

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MSDS No: M00032

## SAFETY DATA SHEET

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

**Product Name:** Phenol 2 Reagent  
**Catalog Number:** 183699

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:** M00032

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

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

**CAS No.:** Not applicable

**Hazard:** May cause irritation. Contact with acid may generate toxic fumes.

**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

#### Potassium Sulfate

**EEC Number:** 2319155

**CAS No.:** 777865

**Percent Range:** 35,0 - 45,0

**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

#### Potassium Ferricyanide

**EEC Number:** 2373233

**CAS No.:** 13746-66-2

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

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Xn - HARMFUL

**Ingredient R phrase(s) (R phrase details given in Heading 16):** R 32

**TLV:** 1 mg/m<sup>3</sup> (Fe)

**PEL:** Not established

**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust. Cyanides are on the Priority List for OELs.

### 3. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** Orange powder  
**Odor:** None  
**EU Symbols:** Not applicable  
**R PHRASES:** R 32: Contact with acids liberates very toxic gas.

**Protective Equipment:**

**Potential Health Effects:**

**Eye Contact (EC):** None reported

**Skin Contact (EC):** None reported

**Skin Absorption (EC):** None Reported

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

**Ingestion (EC):** May cause: gastrointestinal tract irritation nausea vomiting diarrhea abdominal cramps disturb the heart's rhythm convulsions allergic reaction Potassium Ferricyanide, according to current data, does not decompose into Hydrogen Cyanide when ingested. Iron poisoning is indicated by pink urine discoloration.

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

**Inhalation:** May cause: irritation of nose and throat pneumonitis coughing sneezing allergic respiratory reaction

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

**Medical Conditions Aggravated:** Pre-existing: Respiratory conditions Asthma

**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

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## 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):** Give 1-2 glasses of water. 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.

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## 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Material will not burn. During a fire, irritating and highly toxic gases may be generated by thermal decomposition.

**Hazardous Combustion Products:** Toxic fumes of: cyanide compounds sulfur oxides. potassium oxides

**Fire / Explosion Hazards:** This product will not burn or explode.

**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.

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## 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:** 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: a pound or more of loose powder is spilled. If conditions warrant, increase the size of the evacuation.

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## 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:** Store between 10° and 25°C. Keep away from: acids

**Special Packaging Instructions:** Not applicable

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

---

## 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 clothing Do not breathe: dust Wash thoroughly after handling.

Protect from: heat Keep away from: acids/acid fumes

**TLV:** Not established

**PEL:** Not established

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

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Orange powder

**Physical State:** Solid

**Odor:** None

**pH:** 5% solution = 8,3

**Vapor Pressure:** Not applicable

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

**Boiling Point:** Not applicable

**Melting Point:** 175 °C (347 °F) Decomposes

**Flash Point:** Not applicable

**Method:** Not applicable

**Autoignition Temperature:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Specific Gravity (water = 1):** 2,05

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

**Volatile Organic Compounds Content:** Not applicable

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

**Solubility:**

**Water:** Soluble

**Acid:** Not determined

**Other:** Not determined

**Metal Corrosivity:**

**Steel:** Not determined

**Aluminum:** Not determined

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## 10. STABILITY / REACTIVITY

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

**Conditions to Avoid:** Extreme temperatures

**Reactivity / Incompatibility:** Incompatible with: aluminum magnesium acids ammonia sodium nitrite

**Hazardous Decomposition:** Contact with acids or heating to decomposition may release toxic fumes of: cyanide sulfur oxides potassium oxide

**Hazardous Polymerization:** Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**



**LD<sub>50</sub>:** None reported  
**LC<sub>50</sub>:** None reported  
**Dermal Toxicity Data:** None reported  
**Skin and Eye Irritation Data:** None reported  
**Mutation Data:** None reported  
**Reproductive Effects Data:** None reported

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**Ingredient Toxicological Data:** Potassium Sulfate: Oral Woman LDLo = 750 mg/kg, Oral rat LD50 = 6600 mg/kg;  
Potassium Ferricyanide: Oral rat LD50 = 2970 mg/kg

This product does NOT contain any IARC listed chemicals.

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## 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.

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## 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.

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## 14. TRANSPORT INFORMATION

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

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**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

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## 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:* R 32: Contact with acids liberates very toxic gas.

*S PHRASES:* S 14a: Keep away from acids. S 41: In case of fire and/or explosion do not breathe fumes.

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## 16. OTHER INFORMATION

*References:* 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. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. Technical Judgment. Vendor Information. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. Patty, Frank A. Industrial Hygiene and Toxicology, 3rd Revised Edition. Volume 2. New York: A Wiley-Interscience Publication, 1981. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. In-house information.

*R PHRASES:* R 32: Contact with acids liberates very toxic gas.

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

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

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### 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.**

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MSDS No: M00305

## SAFETY DATA SHEET

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

**Product Name:** Buffer Solution Hardness 1 pH 10,1 ± 0,1  
**Catalog Number:** 42449

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:** M00305

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**Use of the substance/preparation:** Hardness determination

**CAS No.:** Not applicable

**Hazard:** Causes eye burns. May cause irritation.

**Date of MSDS Preparation:**

**Day:** 27

**Month:** April

**Year:** 2007

**Additional Emergency Response Numbers:** Austria: +49 (0)6131 19240, Belgium: +32-(0)70-245245,  
France: +33-(0)1-40370404, Italy: +39-02-66101029, Netherlands: +31-(0)30-2748888, Switzerland: +41-  
(0)1-2515151

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### 2. COMPOSITION / INFORMATION ON INGREDIENTS

#### Acetic Acid

**EEC Number:** 2005807

**CAS No.:** 64-19-7

**Percent Range:** 1,0 - 10,0

**Percent Range Units:** volume / volume

**Ingredient EEC Symbol:** Not applicable

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

**TLV:** 10 ppm (15 ppm STEL)

**PEL:** 10 ppm

**EU Occupational Exposure Limits:** 10 ppm (25 mg/m<sup>3</sup>)

#### Demineralized Water

**EEC Number:** 2317912

**CAS No.:** 7732-18-5

**Percent Range:** 35,0 - 45,0

**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

*Percent Range:* < 1,0

*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

**Aminomethylpropanol**

*EEC Number:* 2047098

*CAS No.:* 124-68-5

*Percent Range:* 50,0 - 60,0

*Percent Range Units:* volume / volume

*Ingredient EEC Symbol:* Xi - IRRITATING

*Ingredient R phrase(s) (R phrase details given in Heading 16):* R 36/38 R 52/53

*TLV:* Not established

*PEL:* Not established

*EU Occupational Exposure Limits:* Not established

---

### 3. HAZARDS IDENTIFICATION

***Emergency Overview:***

*Appearance:* Clear, yellow liquid

*Odor:* Vinegar

*EU Symbols:* Xi - IRRITATING

*R PHRASES:* R 36/38: Irritating to eyes and skin. R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

***Protective Equipment:***

***Potential Health Effects:***

*Eye Contact (EC):* Causes irritation

*Skin Contact (EC):* Causes mild irritation

*Skin Absorption (EC):* Will be absorbed through the skin.

*Target Organs (SA E):* None Reported

*Ingestion (EC):* May cause: abdominal pain

*Target Organs (Ing E):* None Reported

*Inhalation:* May cause: 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:* Contains: an experimental mutagen.

*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: nitrogen oxides, carbon monoxide, carbon dioxide.

**Fire / Explosion Hazards:** May react violently with: strong oxidizers

**Static Discharge:** None reported.

**Mechanical Impact:** None reported

**Extinguishing Media:** Water. Dry chemical. Carbon dioxide. Alcohol foam.

**Extinguishing Media NOT To Be Used:** Not applicable. 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:** 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:** Cover spilled material with a dry acid, such as citric or boric. Scoop up slurry into a large beaker. Dilute with a large excess of 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, clothing. Do not breathe mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

**Storage:** Store away from: oxidizers. Protect from: heat.

**Special Packaging Instructions:** Not applicable.

**Use of the substance/preparation:** Hardness determination.

---

## 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:** chemical splash goggles

**Skin / Hand Protection:** lab coat, disposable latex gloves

**Inhalation Protection:** adequate ventilation

**Precautionary Measures:** Avoid contact with: eyes, skin, clothing. Do not breathe: mist/vapor. Wash thoroughly after handling. Keep away from: oxidizers.

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** Not established

---

## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, yellow liquid  
**Physical State:** Liquid  
**Odor:** Vinegar  
**pH:** of 2% solution = 10,0  
**Vapor Pressure:** Not determined  
**Vapor Density (air = 1):** Not determined  
**Boiling Point:** 104,5°C (220°F)  
**Melting Point:** Not determined  
**Flash Point:** >97,2°C (>207°F)  
**Method:** Closed cup  
**Autoignition Temperature:** Not determined  
**Flammability Limits:**  
    **Lower Explosion Limits:** Not determined  
    **Upper Explosion Limits:** Not determined  
**Specific Gravity (water = 1):** 1,033  
**Evaporation Rate (water = 1):** 0,36  
**Volatile Organic Compounds Content:** Not determined  
**Partition Coefficient (n-octanol / water):** Not determined  
**Solubility:**  
    **Water:** Soluble  
    **Acid:** Soluble  
    **Other:** Not determined  
**Metal Corrosivity:**  
    **Steel:** 0,002 in/yr  
    **Aluminum:** Not determined

---

## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.  
**Conditions to Avoid:** Extreme temperatures  
**Reactivity / Incompatibility:** May react violently in contact with: oxidizers  
**Hazardous Decomposition:** Toxic fumes of: nitrogen oxides carbon dioxide carbon monoxide  
**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:** Aminomethylpropanol: Skin at 1 hour exposure: erythema score of 1 @ 1hour, edema score of 0,67 @ 1hour - MILD; Skin at 4 hours exposure: erythema score of 1,33 @ 1 hour, edema score of 1,67 @ 1 hour - MILD

**Mutation Data:** Acetic Acid: Human sister chromatid exchange in Lymphocytes at 5 mmol/l

**Reproductive Effects Data:** None reported

--

**Ingredient Toxicological Data:** Aminomethylpropanol: Oral rat LD50 = 2900 mg/kg; Acetic Acid: Oral rat LD50 = 3310 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:** Xi - IRRITATING

**R PHRASES:** R 36/38: Irritating to eyes and skin. R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**S PHRASES:** S 25: Avoid contact with eyes. S 37/39: Wear suitable gloves and eye / face protection. S 35: This material and its container must be disposed of in a safe way.

---

### 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. 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. 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. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992.

**R PHRASES:** R 36/38: Irritating to eyes and skin. R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Use of the substance/preparation:** Hardness 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.**

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MSDS No: M00538

## SAFETY DATA SHEET

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

**Product Name:** Phenol Reagent  
**Catalog Number:** 87299

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:** M00538

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

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

**CAS No.:** Not applicable

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

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

#### Maltodextrin

**EEC Number:** 2329404

**CAS No.:** 9056866

**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:** Not established

**PEL:** Not established

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

#### 4-Aminoantipyrine Hydrogen Phosphate

**EEC Number:** 2695006

**CAS No.:** 68258-97-9

**Percent Range:** < 15

**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

#### Sodium Sulfate

**EEC Number:** 2318209

**CAS No.:** 7757826

**Percent Range:** > 80  
**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:** Light yellow or orange 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):** May cause: gastrointestinal tract irritation irritation of the mouth and esophagus  
**Target Organs (Ing E):** None Reported  
**Inhalation:** May cause: respiratory tract irritation  
**Target Organs (Inh E):** None Reported  
**Medical Conditions Aggravated:** None reported  
**Chronic Effects:** None reported  
**Cancer / Reproductive Toxicity Information:**  
This product does NOT contain any IARC listed chemicals.

**Additional Cancer / Reproductive Toxicity Information:** Tests performed on this product / components gave insufficient evidence to classify for carcinogenicity.

**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:** During a fire, this product decomposes to form toxic gases.  
**Hazardous Combustion Products:** Toxic fumes of: sodium oxides sulfur oxides. phosphorus oxides  
**Fire / Explosion Hazards:** None reported  
**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:** 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 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: light moisture Keep container tightly closed when not in use.

**Special Packaging Instructions:** Not applicable

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

---

## 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: light

**TLV:** Not established

**PEL:** Not established

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

---

## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Light yellow or orange powder

**Physical State:** Solid

**Odor:** Not determined

**pH:** Not determined

**Vapor Pressure:** Not applicable

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

**Boiling Point:** Not applicable

**Melting Point:** Not determined

**Flash Point:** Not applicable

**Method:** Not applicable

**Autoignition Temperature:** Not applicable

**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:** Not determined

**Metal Corrosivity:**

**Steel:** Not determined

**Aluminum:** Not determined

---

## 10. STABILITY / REACTIVITY

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

**Conditions to Avoid:** Exposure to light. Excess moisture Heating to decomposition.  
**Reactivity / Incompatibility:** Incompatible with: strong acids strong bases magnesium aluminum  
**Hazardous Decomposition:** Heating to decomposition releases: sodium oxides sulfur oxides phosphorus 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:** None reported

**Mutation Data:** None reported

**Reproductive Effects Data:** Sodium Sulfate: Oral mouse TD<sub>LO</sub> = 14 gm/kg (Unspecified neonatal effects); TDLo = 60 mg/kg Reproductive effects - Embryo or Fetus - fetotoxicity, Specific Developmental Abnormalities - musculoskeletal

--

**Ingredient Toxicological Data:** Sodium Sulfate: Oral mouse LD<sub>50</sub> = 5989 mg/kg

Not applicable

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:** Sodium Sulfate: Aquatic toxicity-TLm 13500 mg/L bluegill sunfish / 96 hours, TLm 16500 mg/L mosquito fish / 96 hours

---

## 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. Technical Judgment. In-house information. 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.

**R PHRASES:** Not applicable

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

**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.

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