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MSDS No: M00109

# SAFETY DATA SHEET

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

**Product Name:** DPD Free Chlorine Reagent  
**Catalog Number:** 2197846

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:** M00109

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**Use of the substance/preparation:** Determination of Free Chlorine

**CAS No.:** Not applicable

**Hazard:** May cause sensitization. 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

### Salt of N,N-Diethyl-p-Phenylenediamine

**EEC Number:** Confidential

**CAS No.:** Confidential

**Percent Range:** 1,0 - 5,0

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Xn - HARMFUL

**Ingredient R phrase(s) (R phrase details given in Heading 16):** R 22 R 36 R 52/53

**TLV:** Not established

**PEL:** Not established

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

### Carboxylate Salt

**EEC Number:** Confidential

**CAS No.:** Confidential

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

**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

### Sodium Phosphate, Dibasic

**EEC Number:** 2314487

**CAS No.:** 7782856

**Percent Range:** 30,0 - 40,0

**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

**Ethylenediaminetetraacetic Acid, Disodium Salt**

**EEC Number:** 2053583  
**CAS No.:** 6384926  
**Percent Range:** 1,0 - 10,0  
**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

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### 3. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** White or light pink powder  
**Odor:** None  
**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 May cause allergic reaction  
**Skin Absorption (EC):** None Reported  
**Target Organs (SA E):** None Reported  
**Ingestion (EC):** DPD LD50 studies revealed decreased locomotor activity, depressed respiration, muscle spasms, loss of righting reflex and death. Autopsies revealed ulcerated stomach, enteritis, gas and congested lungs.  
**Target Organs (Ing E):** None Reported  
**Inhalation:** May cause: respiratory tract irritation Effects similar to those of ingestion.  
**Target Organs (Inh E):** None Reported  
**Medical Conditions Aggravated:** Allergy or sensitivity to salts of N,N-Diethyl-p-phenylenediamine Pre-existing: Eye conditions Skin conditions Respiratory conditions  
**Chronic Effects:** DPD may cause allergic skin reactions in some people causing severe skin rashes and itching.  
**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. Call physician if irritation develops.  
**Ingestion (First Aid):** Call physician immediately. Give 1-2 glasses of water under medical supervision. Never give anything by mouth to an unconscious person.  
**Inhalation:** Remove to fresh air.

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### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Can burn in fire, releasing toxic vapors.  
**Hazardous Combustion Products:** Toxic fumes of: carbon monoxide, carbon dioxide. phosphorus oxides nitrogen oxides.  
**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.

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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:** Scoop up spilled material into a large beaker and dissolve with water. 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.

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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. Protect from: light moisture heat

**Special Packaging Instructions:** Not applicable

**Use of the substance/preparation:** Determination of Free Chlorine

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## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** Have an eyewash station nearby. Have a safety shower 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: light moisture heat

**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:** White or light pink powder

**Physical State:** Solid

**Odor:** None

**pH:** of 1% soln. = 6,35 @ 25°C

**Vapor Pressure:** Not applicable

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

**Boiling Point:** Not applicable

**Melting Point:** 110 C decomp

**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):** 1,76

**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:* 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 light. Excess moisture Heating to decomposition.  
*Reactivity / Incompatibility:* None reported  
*Hazardous Decomposition:* Heating to decomposition releases toxic and/or corrosive fumes of: carbon dioxide carbon monoxide phosphorus oxides nitrogen oxides  
*Hazardous Polymerization:* Will not occur.

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## 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

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*Ingredient Toxicological Data:* Salt of DPD Oral rat LD50 = 970 mg/kg; Sodium Phosphate Dibasic Oral Rat LD50 = 17 g/kg; EDTA Disodium Salt Oral Rat LD50 = 2000 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

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*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 or are placed on the market in quantities less than 10 kg per year.

*EEC Number:* Not applicable

*EEC LABEL COPY:*

*EU Symbols:* Not applicable

*R PHRASES:* Not applicable

*S PHRASES:* Not applicable

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## 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. In-house information. Technical Judgment. Outside Testing. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989.

*R PHRASES:* Not applicable

*Use of the substance/preparation:* Determination of Free Chlorine

*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.

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