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


*Date Printed 10/24/15*
*MSDS No: M00109*

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

***Product Name:*** DPD Free Chlorine Reagent
***Catalog Number:*** 1407028

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

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

***MSDS Number:*** M00109
***Chemical Name:*** Not applicable
***CAS Number:*** Not applicable
***Additional CAS No. (for hydrated forms):*** Not applicable
***Chemical Formula:*** Not applicable
***Chemical Family:*** Mixture
***Intended Use:*** Laboratory Use Determination of Free Chlorine
HMIRC Registry Number 8079 Granted: 12/02/24

## 2. HAZARDS IDENTIFICATION

***GHS Classification:***
***Hazard categories:*** Skin Corrosion/Irritation: Skin Irrit. 2 Serious Eye Damage/Eye Irritation:Eye Irrit. 2
***GHS Label Elements:***
WARNING

***Hazard statements:*** Causes skin irritation. Causes serious eye irritation.
***Precautionary statements:*** Wear protective gloves / protective clothing / eye protection / face protection. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
***HMIS:***
***Health:*** 1
***Flammability:*** 1
***Reactivity:*** 0
***Protective Equipment:*** X - See protective equipment, Section 8.
***NFPA:***
***Health:*** 1
***Flammability:*** 1
***Reactivity:*** 0
***Symbol:*** Not applicable
***WHMIS Hazard Classification:*** Class D, Division 2, Subdivision B - Toxic material (other toxic effects)
***WHMIS Symbols:*** Other Toxic Effects

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

***Hazardous Components according to GHS:***
**Sodium Phosphate, Dibasic**

***CAS Number:*** 7558-79-4
***Chemical Formula:*** $Na_2HPO_4$
***GHS Classification:*** Skin Irrit. 2, H315; Eye Irrit. 2A, H319
***Percent Range (Trade Secret):*** 30.0 - 40.0
***Percent Range Units:*** weight / weight
***PEL:*** 15 mg/m$^3$ as inhalable dust; 5 mg/m$^3$ as respirable dust
***TLV:*** 10 mg/m$^3$ as inhalable dust; 3 mg/m$^3$ as respirable dust

***WHMIS Symbols:*** Not applicable

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

***CAS Number:*** Confidential
***Chemical Formula:*** Confidential
***GHS Classification:*** Acute Tox. 4, H302; Eye Irrit. 2, H319; Aquatic Chrn. 3, H412
***Percent Range (Trade Secret):*** < 5.0
***Percent Range Units:*** weight / weight
***PEL:*** 15 mg/m$^3$ as inhalable dust; 5 mg/m$^3$ as respirable dust
***TLV:*** 10 mg/m$^3$ as inhalable dust; 3 mg/m$^3$ as respirable dust
HMIRC Registry Number 8081 Granted: 12/02/24
***WHMIS Symbols:*** Other Toxic Effects

**Disodium EDTA**

***CAS Number:*** 139-33-3
***Chemical Formula:*** C10H14N2Na-2O82HO
***GHS Classification:*** Acute Tox. 5-Orl, H303; Eye Irrit. 2A, H319; Aquatic Acute 2, H401
***Percent Range (Trade Secret):*** < 5.0
***Percent Range Units:*** weight / weight
***PEL:*** 15 mg/m$^3$ as total dust; 5 mg/m$^3$ as respirable dust
***TLV:*** 10 mg/m$^3$ as inhalable dust; 3 mg/m$^3$ as respirable dust

***WHMIS Symbols:*** Not applicable

***Hazardous Components according to GHS: No***

**Carboxylate Salt**

***CAS Number:*** Confidential
***Chemical Formula:*** Confidential
***GHS Classification:*** Not hazardous
***Percent Range (Trade Secret):*** 60.0 - 70.0
***Percent Range Units:*** weight / weight
***PEL:*** 15 mg/m$^3$ as inhalable dust; 5 mg/m$^3$ as respirable dust
***TLV:*** 10 mg/m$^3$ as inhalable dust; 3 mg/m$^3$ as respirable dust
HMIRC Registry Number 8080 Granted: 12/02/24
***WHMIS Symbols:*** Not applicable

## 4. FIRST AID MEASURES

***General Information:*** In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.
***Advice to doctor:*** Treat symptomatically.
***Eye Contact:*** Immediately flush eyes with water for 15 minutes. Call physician if irritation develops.
***Skin Contact (First Aid):*** Wash skin with soap and plenty of water. Call physician if irritation develops. Remove contaminated clothing.
***Inhalation:*** Remove to fresh air. Give artificial respiration if necessary. If you feel unwell, contact a physician
***Ingestion (First Aid):*** Never give anything by mouth to an unconscious person. Call physician immediately. Give large quantities of water or milk. If you feel unwell, contact a physician.

## 5. FIRE FIGHTING MEASURES

***Flammable Properties:*** Material is not classified as flammable according to GHS criteria. Can burn in fire, releasing toxic vapors.
***Fire Fighting Instruction:*** As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.
***Extinguishing Media:*** Use media appropriate to surrounding fire conditions
***Extinguishing Media NOT To Be Used:*** Not applicable
***Fire / Explosion Hazards:*** May react violently with: strong oxidizers
***Hazardous Combustion Products:*** Toxic fumes of: carbon monoxide, carbon dioxide. phosphorus oxides nitrogen oxides.

## 6. ACCIDENTAL RELEASE MEASURES

***Spill Response Notice:***
Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
***Containment Technique:*** Stop spilled material from being released to the environment. Releases of this material may contaminate the environment.
***Clean-up Technique:*** Scoop up spilled material into a large beaker and dissolve with water. Decontaminate the area of the spill with a soap solution. If permitted by regulation, Flush reacted material to the drain with a large excess of water. Otherwise, Dispose of in accordance with local, state and federal regulations or laws.
***Evacuation Procedure:*** Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.
***DOT Emergency Response Guide Number:*** Not applicable

## 7. HANDLING AND STORAGE

***Handling:*** Avoid contact with eyes skin clothing Use with adequate ventilation. 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 Keep away from: oxidizers
***Flammability Class:*** Not applicable

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

***Engineering Controls:*** 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 Protection:*** nitrile gloves In the EU, the selected gloves must satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it. lab coat
***Inhalation Protection:*** adequate ventilation
***Precautionary Measures:*** Avoid contact with: eyes skin clothing Use with adequate ventilation. Do not breathe: dust Wash thoroughly after handling. Protect from: light moisture heat Keep away from: oxidizers
***TLV:*** 15 mg/m$^3$ as inhalable dust; 5 mg/m$^3$ as respirable dust
***PEL:*** 10 mg/m$^3$ as inhalable dust; 3 mg/m$^3$ as respirable dust
***For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.:***

## 9. PHYSICAL AND CHEMICAL PROPERTIES

***Appearance:*** White or light pink powder
***Physical State:*** Solid
***Molecular Weight:*** Not applicable
***Odor:*** Odorless
***Odor Threshold:*** Not applicable
***pH:*** 6.35 (1% solution)
***Metal Corrosivity:***

***Corrosivity Classification:*** Not classified as corrosive to metals according to GHS criteria.
***Steel:*** Not applicable
***Aluminum:*** Not applicable
***Specific Gravity/ Relative Density (water = 1; air =1):*** 1.76
***Viscosity:*** Not applicable
***Solubility:***
***Water:*** Soluble
***Acid:*** Soluble
***Other:*** Not determined
***Partition Coefficient (n-octanol / water):*** Not determined
***Coefficient of Water / Oil:*** Not determined
***Melting Point:*** Decomposes @ 110 °C (230 °F)
***Decomposition Temperature:*** 110 °C (230 °F)
***Boiling Point:*** Not applicable
***Vapor Pressure:*** Not applicable
***Vapor Density (air = 1):*** Not applicable
***Evaporation Rate (water = 1):*** Not applicable
***Volatile Organic Compounds Content:*** Not applicable
***Flammable Properties:*** Material is not classified as flammable according to GHS criteria. Can burn in fire, releasing toxic vapors.
***Flash Point:*** Not applicable
***Method:*** Not applicable
***Flammability Limits:***
***Lower Explosion Limits:*** Not applicable
***Upper Explosion Limits:*** Not applicable
***Autoignition Temperature:*** Not determined
***Explosive Properties:***
Not classified according to GHS criteria.
***Oxidizing Properties:***
Not classified according to GHS criteria.
***Reactivity Properties:***
Not classifed as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.
***Gas under Pressure:***
Not classified according to GHS criteria.

## 10. STABILITY AND REACTIVITY

***Chemical Stability:*** Stable when stored under proper conditions.
***Mechanical Impact:*** None reported
***Static Discharge:*** None reported.
***Reactivity / Incompatibility:*** Incompatible with: oxidizers
***Hazardous Decomposition:*** Heating to decomposition releases toxic and/or corrosive fumes of: carbon dioxide carbon monoxide phosphorus oxides nitrogen oxides
***Conditions to Avoid:*** Exposure to light. Excess moisture Heating to decomposition. Contact with oxidizers Poor Ventilation

## 11. TOXICOLOGICAL INFORMATION

***Toxicokinetics, Metabolism and Distribution:*** No information available for mixture.
***Toxicologically Synergistic Products:*** None reported
***Acute Toxicity:*** Practically Non-toxic Based on classification principles, the classification criteria are not met.
***Specific Target Organ Toxicity - Single Exposure (STOT-SE):*** Based on classification principles, the classification criteria are not met.
***Specific Target Organ Toxicity - Repeat Exposure (STOT-RE):*** Based on classification principles, the classification criteria are not met.
***Skin Corrosion/Irritation:*** Irritating to skin.
***Eye Damage:*** Irritating to eyes.

***Sensitization:*** Based on classification principles, the classification criteria are not met.
***CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction):*** Based on classification principles, the classification criteria are not met. Summary of findings reported in the literature follow.
Disodium EDTA: Cytogenetic Analysis - Hamster Lung - 200 mg/L
IARC Listed: No
This product does NOT contain any NTP listed chemicals.
This product does NOT contain any OSHA listed carcinogens.
***Symptoms/Effects:***
***Ingestion:*** 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. Very large doses may cause: gastrointestinal tract irritation diarrhea nausea vomiting irritation of the mouth and esophagus fever lethargy muscular cramps calcium deficiency in the blood kidney damage
***Inhalation:*** Large doses may cause: irritation of nose and throat
***Skin Absorption:*** No effects anticipated
***Chronic Effects:*** DPD may cause allergic skin reactions in some people causing severe skin rashes and itching. Chronic overexposure may cause low levels of calcium in the blood kidney damage
***Medical Conditions Aggravated:*** Allergy or sensitivity to salts of N,N-Diethyl-p-phenylenediamine Pre-existing: Eye conditions Skin conditions Respiratory conditions

## 12. ECOLOGICAL INFORMATION

***Product Ecological Information:*** --
No ecological data available for this product. Based on classification principles, not classified as hazardous to the environment.
Method Used for Estimation of Aquatic Toxicity of Mixture Summation Method M-factor (Multiplier) for highly toxic ingredients: 1
***Ingredient Ecological Information:*** Salt of N,N-Diethyl-p-Phenylenediamine: 48 hr Daphnia magna EC50 = 10.8 mg/L; 24 hr NOEC = 3.1 mg/L; 48 hr NOEC = 3.1 mg/L; EDTA, disodium salt: 96 hr Bluegill LC50 = 159 mg/L; 72 hr Green algae ErC50 = 10-100 mg/L.
CEPA categorization for ingredients are as follows:
EDTA, disodium salt: Not persistent, bioaccumulative or inherently toxic to aquatic organisms.
Sodium Phosphate, Dibasic: Persistent, not bioaccumulative and not inherently toxic to aquatic organisms.

## 13. DISPOSAL CONSIDERATIONS

***EPA Waste ID Number:*** Not applicable
***Special Instructions (Disposal):*** Dilute to 3 to 5 times the volume with cold water. If permitted by regulation, Open cold water tap completely, slowly pour the material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Otherwise, Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.
***Empty Containers:*** Working in a well-ventilated area, Rinse three times with an appropriate solvent. Collect rinsate and dispose of according to local, state or federal regulations. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P. A. approved facility. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste. Dispose of empty container as normal trash.
***NOTICE (Disposal):*** These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information. 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

***D.O.T.:***
***D.O.T. Proper Shipping Name:*** Not Currently Regulated
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***Hazard Class:*** NA
***Subsidiary Risk:*** NA

***ID Number:*** NA
***Packing Group:*** NA

***T.D.G.:***
***Proper Shipping Name:*** Not Currently Regulated
--
***Hazard Class:*** NA
***Subsidiary Risk:*** NA
***UN Number/PIN:*** NA
***Packing Group:*** NA

***I.C.A.O.:***
***I.C.A.O. Proper Shipping Name:*** Not Currently Regulated
--
***Hazard Class:*** NA
***Subsidiary Risk:*** NA
***ID Number:*** NA
***Packing Group:*** NA

***I.M.O.:***
***Proper Shipping Name:*** Not Currently Regulated
--
***Hazard Class:*** NA
***Subsidiary Risk:*** NA
***ID Number:*** NA
***Packing Group:*** NA
***Marine Pollutant:***

***Additional Information:*** There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a set or kit, the classification given above applies. If the item IS part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

## 15. REGULATORY INFORMATION

***U.S. Federal Regulations:***
***O.S.H.A.:*** This product is an "Article" as defined in the Hazard Communication Standard (29 CFR. 1910.1200)
***E.P.A.:***
***S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370):*** Immediate (Acute) Health Hazard
***S.A.R.A. Title III Section 313 (40 CFR 372):*** This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.
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***302 (EHS) TPQ (40 CFR 355):*** Not applicable
***304 CERCLA RQ (40 CFR 302.4):*** 5000 lbs. Sodium Phosphate, Dibasic
***304 EHS RQ (40 CFR 355):*** Not applicable
***Clean Water Act (40 CFR 116.4):*** Sodium phosphate, dibasic - RQ 5000 lbs.
***RCRA:*** Contains no RCRA regulated substances.

***State Regulations:***
***California Prop. 65:*** No Prop. 65 listed chemicals are present in this product.
***Identification of Prop. 65 Ingredient(s):*** None
***California Perchlorate Rule CCR Title 22 Chap 33:*** Not applicable
***Trade Secret Registry:*** New Jersey Trade Secret Registry Number 80100131-5001 (Carboxylate Salt) New Jersey Trade Secret Registry Number 80100131-5002 (DPD Salt) New York Trade Secret Registry Number 478 (DPD Salt) New York Trade Secret Registry Number 479 (Carboxylate Salt) This product complies with Pennsylvania Trade Secret Regulations. This product is registered as a trade secret in the state of Illinois. This product is registered as a trade secret in the state of Massachusetts. This product is registered as a trade secret in the state of New York.

***National Inventories:***
***U.S. Inventory Status:*** All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).
***CAS Number:*** Not applicable
***Canadian Inventory Status:*** All ingredients of this product are DSL/NDSL Listed.
***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.

***Australian Inventory (AICS) Status:*** Exempt. Annual Report Required.
***New Zealand Inventory (NZIoC) Status:*** All components either listed or exempt.
***Korean Inventory (KECI) Status:*** All components of this product are either listed, listed as the anhydrous compound or exempt.
***Japan (ENCS) Inventory Status:*** All components either listed or exempt.
***China (PRC) Inventory (MEP) Status:*** All components either listed or exempt.

## 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.
***Complete Text of H phrases referred to in Section 3:*** H302 Harmful if swallowed. Not applicable H315 Causes skin irritation. H319 Causes serious eye irritation. H401 Toxic to aquatic life. H412 Harmful to aquatic life with long lasting effects.
***Revision Summary:*** Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS ( ST/SG/AC.10/36/Add.3).
***Date of MSDS Preparation:***
***Day:*** 04
***Month:*** March
***Year:*** 2014
***MSDS Prepared:*** MSDS prepared by Product Compliance Department extension 3350
***CCOHS Evaluation Note:*** This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS. It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17.

**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.**