

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

MSDS No: M00110

## SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** DPD Total Chlorine Reagent  
**Catalog Number:** 2105628

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:** M00110  
**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 Reagent Indicator for total chlorine  
HMIRC Registry Number 8080 Granted: 12/02/24

### 2. HAZARDS IDENTIFICATION

**GHS Classification:**

**Hazard categories:** . Skin Corrosion/Irritation: Skin Irrit. 2 Serious Eye Damage/Eye Irritation: Eye Irrit. 2A

**GHS Label Elements:**

WARNING



**Hazard statements:** . Causes skin irritation. Causes serious eye irritation.

**Precautionary statements:** Wear protective gloves / protective clothing / eye protection / face protection. Call a POISON CENTER or doctor/physician if you feel unwell. Take off contaminated clothing and wash before reuse. Wear eye protection. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. 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:**

**Potassium Iodide**

**CAS Number:** 7681-11-0

**Chemical Formula:** KI

**GHS Classification:** Acute Tox 5 -Orl, H303; Skin Irr. 2, H315; Eye Irr. 2A, H319

**Percent Range (Trade Secret):** 20.0 - 30.0

**Percent Range Units:** weight / weight

**PEL:** 15 mg/m<sup>3</sup> as total dust; 5 mg/m<sup>3</sup> as respirable dust

**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust

**WHMIS Symbols:** Other Toxic Effects

**Sodium Phosphate, Dibasic**

**CAS Number:** 7558-79-4

**Chemical Formula:** Na<sub>2</sub>HPO<sub>4</sub>

**GHS Classification:** Skin Irrit. 2, H315; Eye Irrit. 2A, H319

**Percent Range (Trade Secret):** 20.0 - 30.0

**Percent Range Units:** weight / weight

**PEL:** 15 mg/m<sup>3</sup> as inhalable dust; 5 mg/m<sup>3</sup> as respirable dust

**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> 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):** 1.0 - 5.0

**Percent Range Units:** weight / weight

**PEL:** 15 mg/m<sup>3</sup> as inhalable dust; 5 mg/m<sup>3</sup> as respirable dust

**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust

HMIRC Registry Number 8081 Granted: 12/02/24

**WHMIS Symbols:** Other Toxic Effects

**Ethylenediaminetetraacetic Acid, Disodium Salt**

**CAS Number:** 139-33-3

**Chemical Formula:** C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>8</sub>·2H<sub>2</sub>O

**GHS Classification:** Acute Tox. 5-Orl, H303; Eye Irrit. 2A, H319; Aquatic Acute 2, H401

**Percent Range (Trade Secret):** < 1.0

**Percent Range Units:** weight / weight

**PEL:** 15 mg/m<sup>3</sup> as total dust; 5 mg/m<sup>3</sup> as respirable dust

**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> 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):** 40.0 - 50.0

**Percent Range Units:** weight / weight

**PEL:** 15 mg/m<sup>3</sup> as inhalable dust; 5 mg/m<sup>3</sup> as respirable dust

**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust

HMIRC Registry Number 8080 Granted: 12/02/24

**WHMIS Symbols:** Not applicable

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## 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.

**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.

**Ingestion (First Aid):** Never give anything by mouth to an unconscious person. Give 1-2 glasses of water under medical supervision. Call physician immediately.

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## 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Can burn in fire, releasing toxic vapors. Material is not classified as flammable according to GHS criteria. During a fire, this product decomposes to form toxic gases.

**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:** None reported

**Hazardous Combustion Products:** Toxic fumes of: carbon monoxide, carbon dioxide, iodine compounds, phosphorus oxides, potassium oxides, sodium monoxide, nitrogen oxides.

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## 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. If permitted by regulation, flush reacted material to the drain with a large excess of water. Otherwise, decontaminate the area of the spill with a soap solution. Pick up spill for disposal and place in a closed container. 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

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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, heat, moisture

**Flammability Class:** Not applicable

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Have an eyewash station nearby. Use general ventilation to minimize exposure to mist, vapor or dust.

### **Personal Protective Equipment:**

**Eye Protection:** safety glasses with top and side shields

**Skin Protection:** lab coat, 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.

**Inhalation Protection:** adequate ventilation

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

**TLV:** Not established

**PEL:** Not established

**For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.:**



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## 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:** 0.038 in/yr

**Aluminum:** 0.006 in/yr

**Specific Gravity/ Relative Density (water = 1; air =1):** 1.79

**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:** 145 °C (293 °F)

**Decomposition Temperature:** Not determined

**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:** Can burn in fire, releasing toxic vapors. Material is not classified as flammable according to GHS criteria. During a fire, this product decomposes to form toxic gases.

**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 classified 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.

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## 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 iodine compounds phosphorus oxides potassium oxide nitrogen oxides

**Conditions to Avoid:** Exposure to light. Excess moisture Extreme temperatures

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## 11. TOXICOLOGICAL INFORMATION

**Toxicokinetics, Metabolism and Distribution:** No information available for mixture.

**Toxicologically Synergistic Products:** None reported

**Acute Toxicity:** Route Data Given Below Based on classification principles, the classification criteria are not met.





Oral Rat LD50 = 7000 mg/kg (male); Oral Rat (female) LD50 = 4700 mg/kg.

**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.

May cause mild irritation.

**Eye Damage:** Irritating to eyes.

May cause mild irritation.

**Sensitization:** Based on classification principles, the classification criteria are not met.

Potassium iodide may cause allergic skin reactions in already sensitized individuals.

**CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction):** Based on classification principles, the classification criteria are not met.

This product does NOT contain any IARC listed chemicals.

This product does NOT contain any NTP listed chemicals.

This product does NOT contain any OSHA listed carcinogens.

**Symptoms/Effects:**

**Ingestion:** May cause iodism, which symptoms include skin rash, conjunctivitis, runny nose, sneezing, bronchitis, headache, fever and irritation of mucous membranes. 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. Large doses may cause: lethargy, loss of strength, loss of coordination, difficult breathing, diarrhea.

**Inhalation:** Very large doses may cause: respiratory tract irritation. Effects similar to those of ingestion.

**Skin Absorption:** No effects anticipated.

**Chronic Effects:** Chronic overexposure may cause allergic skin reactions, hypothyroidism, liver damage. DPD may cause allergic skin reactions in some people causing severe skin rashes and itching. Iodine overdose, 'iodism', may cause skin rash, runny nose, headaches, fever and bronchitis.

**Medical Conditions Aggravated:** Allergy or sensitivity to salts of N,N-Diethyl-p-phenylenediamine. Pre-existing: Eye conditions, Skin conditions, Respiratory conditions. Persons with pre-existing respiratory conditions may be more susceptible to the effects of Potassium Iodide exposure.

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## 12. ECOLOGICAL INFORMATION

**Product Ecological Information: --**

No ecological data available for this product. Mobility in soil: No data available. Do not release into the environment. Do not place in landfill. Recycle appropriately.

Method Used for Estimation of Aquatic Toxicity of Mixture: Summation Method. M-factor (Multiplier) for highly toxic ingredients: 1.

**Ingredient Ecological Information:** EDTA, disodium salt: 72 hr Green algae ErC50 = 10-100 mg/L. DPD Salt: 48 hr Daphnia magna EC50 = 10.8 mg/L.

CEPA categorization for ingredients are as follows:

Potassium iodide: Persistent and inherently toxic to aquatic organisms (Pit). EDTA, disodium salt: Not persistent, bioaccumulative or inherently toxic to aquatic organisms.

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## 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 national, local municipal and state authorities and waste contractors for pertinent local information on the disposal of this article.

**Empty Containers:** 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.

**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



**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

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**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

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**Hazard Class:** NA

**Subsidiary Risk:** NA

**ID Number:** NA

**Packing Group:** NA

**I.M.O.:**

**Proper Shipping Name:** Not Currently Regulated

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**Hazard Class:** NA

**Subsidiary Risk:** NA

**ID Number:** NA

**Packing Group:** NA

**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.

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## 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):** Sodium Phosphate, Dibasic 5000 lbs.

**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):** Not applicable

**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:** DSL Listed: Yes

