



**Be Right™**

# SAFETY DATA SHEET

This safety data sheet complies with the requirements of:  
SS586: 2008 (2014)

**Issue Date** 17-May-2021

**Revision Date** 01-Jun-2022

**Version** 2.3

## Section 1: IDENTIFICATION

### Product identifier

**Product Name** DPD Free Chlorine Reagent

### Other means of identification

**Product Code(s)** 2105569

**Proper shipping name** Not regulated

**Safety data sheet number** M00109

**Pure substance/mixture** Mixture

### Recommended use of the chemical and restrictions on use

**Recommended Use** Water Analysis. Determination of chlorine.

**Uses advised against** Consumer use

### Details of the supplier of the safety data sheet

#### Manufacturer Address

Hach Company, P.O.Box 389, Loveland,  
CO 80539, USA, +1(970) 669-3050

#### Supplier

HACH SEA Headquarters,  
1 Science Park Road, #05-09, East Wing, The Capricorn, Singapore Science Park II,  
Singapore 117528, TEL (65) – 62659381

### Emergency telephone number

Chemtrec 1-800-424-9300

## Section 2: HAZARDS IDENTIFICATION

### Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

**Signal word** - Warning

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#### **Hazard statements**

H315 - Causes skin irritation  
H319 - Causes serious eye irritation

#### **Precautionary statements**

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P332 + P313 - If skin irritation occurs: Get medical attention  
P362 - Take off contaminated clothing and wash before reuse  
P280 - Wear protective gloves, protective clothing, eye protection, and face protection  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337 + P313 - If eye irritation persists: Get medical attention

#### **Other Hazards Known**

None

### **Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**Chemical Family** Mixture

#### **Substance**

Not applicable

#### **Mixture**

**Chemical nature** No information available.

Chemical name	Formula	EC No	CAS No	Percent Range
Carboxylate Salt	No information available	-	-	60 - 70%
Phosphoric acid, disodium salt	Na <sub>2</sub> HPO <sub>4</sub>	231-448-7	7558-79-4	30 - 40%
Salt of N,N-Diethyl-p-Phenylenediamine	No information available	-	-	1 - 5%

### **Section 4: FIRST AID MEASURES**

#### **Description of first aid measures**

**General advice** Show this safety data sheet to the doctor in attendance.

**Inhalation** Remove to fresh air. Get medical attention immediately if symptoms occur.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	
<b>Symptoms</b>	Burning sensation.
<b><u>Indication of any immediate medical attention and special treatment needed</u></b>	
<b>Note to physicians</b>	Treat symptomatically.

## Section 5: FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable Extinguishing Media</b>	Caution: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Hazardous combustion products</b>	Carbon monoxide, Carbon dioxide. Phosphorus oxides. Nitrogen oxides.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## Section 6: ACCIDENTAL RELEASE MEASURES

<b><u>Personal precautions, protective equipment and emergency procedures</u></b>	
<b>Personal precautions</b>	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.
<b>Other Information</b>	Refer to protective measures listed in Sections 7 and 8.
<b><u>Environmental precautions</u></b>	
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so.
<b><u>Methods and material for containment and cleaning up</u></b>	
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Occupational exposure limits

#### Biological occupational exposure limits

Chemical name	CAS No	Singapore
Carboxylate Salt 60 - 70%	-	NDF
Phosphoric acid, disodium salt 30 - 40%	7558-79-4	NDF
Salt of N,N-Diethyl-p-Phenylenediamine 1 - 5%	-	NDF

### Appropriate engineering controls

#### Engineering Controls

Showers  
Eyewash stations  
Ventilation systems. Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures, such as personal protective equipment

#### Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

#### Hand Protection

Wear suitable gloves. Impervious gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.

#### Eye/face protection

If splashes are likely to occur, wear safety glasses with side-shields.

#### Skin and body protection

Wear suitable protective clothing. Long sleeved clothing.

#### General Hygiene Considerations

Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

#### Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

#### Thermal hazards

None under normal processing.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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**Information on basic physical and chemical properties**

**Physical state** Solid  
**Appearance** powder  
**Color** White to light pink  
**Odor** Odorless  
**Odor threshold** White to brown  
No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	6.3	1% @ 20°C
<b>Melting point/freezing point</b>	110 °C / 230 °F	
<b>Boiling point / boiling range</b>	No data available	
<b>Evaporation rate</b>	Not applicable	
<b>Vapor pressure</b>	Not applicable	
<b>Relative vapor density</b>	No data available	
<b>Specific gravity (water = 1 / air = 1)</b>	1.76	
<b>Partition Coefficient (n-octanol/water)</b>	log K <sub>ow</sub> ~ 0	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	log K <sub>oc</sub> ~ 0	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	110 °C / 230 °F	
<b>Dynamic viscosity</b>	Not applicable	
<b>Kinematic viscosity</b>	Not applicable	

**Solubility(ies)**

**Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Completely soluble	> 10000 mg/L	25 °C / 77 °F

**Solubility in other solvents**

<u>Acid</u>	<u>Soluble</u>	<u>&gt; 1000 mg/L</u>	<u>25 °C / 77 °F</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

**Other information**

**Metal Corrosivity**

**Steel Corrosion Rate** No data available  
**Aluminum Corrosion Rate** No data available

**Volatile Organic Compounds (VOC) Content**  
Not applicable

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Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Carboxylate Salt	-	No data available	-
Phosphoric acid, disodium salt	7558-79-4	No data available	-
Salt of N,N-Diethyl-p-Phenylenediamine	-	Not applicable	-

#### Explosive properties

**Upper explosion limit** No data available  
**Lower explosion limit** No data available

#### Flammable properties

**Flash point** Not applicable

#### Flammability Limit in Air

**Upper flammability limit:** No data available  
**Lower flammability limit:** No data available

#### Oxidizing properties

No data available.

#### Bulk density

No data available

## Section 10: STABILITY AND REACTIVITY

#### Reactivity

Not applicable.

#### Chemical stability

**Stability** Stable under normal conditions.

#### Explosion data

**Sensitivity to Mechanical Impact** None  
**Sensitivity to Static Discharge** None.

#### Possibility of hazardous reactions

**Possibility of Hazardous Reactions** None under normal processing.

#### Hazardous polymerization

None under normal processing.

#### Conditions to avoid

**Conditions to avoid** None known based on information supplied.

#### Incompatible materials

**Incompatible materials** Strong acids. Strong bases. Strong oxidizing agents.

#### Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Phosphorus oxides. Nitrogen oxides.

## Section 11: TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

### Product Information

<b>Inhalation</b>	May cause irritation of respiratory tract.
<b>Eye contact</b>	Irritating to eyes. Causes serious eye irritation.
<b>Skin contact</b>	Causes skin irritation.
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Symptoms** Redness. May cause redness and tearing of the eyes.

### Acute toxicity

Based on available data, the classification criteria are not met

### Product Acute Toxicity Data

No data available.

### Ingredient Acute Toxicity Data

Test data reported below.

### Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Salt of N,N-Diethyl-p-Phenylenediamine (1 - 5%) CAS#: -	Rat LD <sub>50</sub>	695 mg/kg	None reported	None reported	Outside testing

### Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

### Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

<b>ATEmix (oral)</b>	19,881.00
<b>ATEmix (dermal)</b>	No information available
<b>ATEmix (inhalation-dust/mist)</b>	No information available
<b>ATEmix (inhalation-vapor)</b>	No information available
<b>ATEmix (inhalation-gas)</b>	No information available

### Skin corrosion/irritation

Classification based on data available for ingredients. Irritating to skin.

### Product Skin Corrosion/Irritation Data

No data available.

### Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Phosphoric acid,	Standard Draize	Rabbit	500 mg	24 hours	Skin irritant	RTECS (Registry of

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disodium salt (30 - 40%) CAS#: 7558-79-4	Test					Toxic Effects of Chemical Substances)
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**Serious eye damage/irritation**

Classification based on data available for ingredients. Irritating to eyes.

**Product Serious Eye Damage/Eye Irritation Data**

No data available.

**Ingredient Eye Damage/Eye Irritation Data**

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Phosphoric acid, disodium salt (30 - 40%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

**Respiratory or skin sensitization**

Based on available data, the classification criteria are not met.

**Product Sensitization Data**

No data available.

**Ingredient Sensitization Data**

No data available.

**STOT - single exposure**

Based on available data, the classification criteria are not met.

**Product Specific Target Organ Toxicity Single Exposure Data**

No data available.

**Ingredient Specific Target Organ Toxicity Single Exposure Data**

No data available.

**STOT - repeated exposure**

Based on available data, the classification criteria are not met.

**Product Specific Target Organ Toxicity Repeat Dose Data**

No data available.

**Ingredient Specific Target Organ Toxicity Repeat Exposure Data**

No data available.

**Carcinogenicity**

Based on available data, the classification criteria are not met.

**Product Carcinogenicity Data**

No data available.

**Ingredient Carcinogenicity Data**

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Carboxylate Salt	-	-	-	-	-
Phosphoric acid, disodium	7558-79-4	-	-	-	-



salt					
Salt of N,N-Diethyl-p-Phenylenedi amine	-	-	-	-	-

**Legend**

<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	Does not apply
<b>IARC (International Agency for Research on Cancer)</b>	Does not apply
<b>NTP (National Toxicology Program)</b>	Does not apply
<b>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</b>	Does not apply

**Germ cell mutagenicity**

Based on available data, the classification criteria are not met.

**Product Germ Cell Mutagenicity invitro Data**

No data available.

**Ingredient Germ Cell Mutagenicity invitro Data**

Test data reported below.

**Product Germ Cell Mutagenicity invivo Data**

No data available.

**Ingredient Germ Cell Mutagenicity invivo Data**

No data available.

**Reproductive toxicity**

Based on available data, the classification criteria are not met.

**Product Reproductive Toxicity Data**

No data available.

**Ingredient Reproductive Toxicity Data**

No data available.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity**

Based on available data, the classification criteria are not met.

**Unknown aquatic toxicity**

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

**Product Ecological Data**

**Aquatic Acute Toxicity**

No data available.

**Aquatic Chronic Toxicity**

No data available.

**Ingredient Ecological Data**

**Aquatic Acute Toxicity**

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Test data reported below.

#### Fish

#### Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Salt of N,N-Diethyl-p-Phenyl enediamine (1 - 5%) CAS#: -	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	10.8 mg/L	Internal Data

#### Algae

##### **Aquatic Chronic Toxicity**

No data available.

##### **Persistence and degradability**

##### **Product Biodegradability Data**

No data available.

##### **Bioaccumulation**

##### **Product Bioaccumulation Data**

No data available.

##### **Partition Coefficient (n-octanol/water)**

log K<sub>ow</sub> ~ 0

##### **Mobility**

##### **Soil Organic Carbon-Water Partition Coefficient**

log K<sub>oc</sub> ~ 0

##### **Other adverse effects**

No information available.

## Section 13: DISPOSAL CONSIDERATIONS

##### **Waste treatment methods**

##### **Waste from residues/unused products**

Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

##### **Contaminated packaging**

Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

##### **Note:**

No special precautions necessary.

##### **IMDG**

**UN number or ID number**

Not regulated

**Transport hazard class(es)**

Not regulated

**Packing Group**

Not regulated

**Marine pollutant**

Not applicable

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**Special precautions for user** Not applicable

**ADR**

<b>UN number or ID number</b>	Not regulated
<b>Proper shipping name</b>	Not regulated
<b>Transport hazard class(es)</b>	Not regulated
<b>Packing Group</b>	Not regulated
<b>Environmental hazards</b>	Not applicable
<b>Special precautions for user</b>	None

**IATA**

<b>UN number or ID number</b>	Not regulated
<b>Transport hazard class(es)</b>	Not regulated
<b>Packing group</b>	Not regulated
<b>Environmental hazards</b>	Not applicable
<b>Special precautions for user</b>	None

**Additional information**

**Section 15: REGULATORY INFORMATION**

**Regulatory information**

**Singapore**

**Arms and Explosives Act**

Not applicable.

**Chemical Weapons Prohibition Act**

Not applicable.

**Environmental Protection and Management (Hazardous Substances) Regulations**

Not applicable.

**Environmental Public Health Act**

Dispose of waste product or used containers according to local regulations.

**Fire Safety (Petroleum and Flammable Materials) Regulations**

Not applicable.

**Hazardous Waste (Control of Export, Import and Transit) Act**

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

**Misuse of Drugs Act**

Not applicable.

**POISON**

Not applicable.

**Strategic Goods (Control) Act**

Not applicable.

**Workplace Safety and Health Act**

Comply with the health and safety at work laws.

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**Pre-employment screening and appropriate health surveillance**

Not applicable

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL - Existing substances</b>	Complies
<b>PICCS</b>	Complies
<b>TCSI</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	Complies

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**TCSI** - Taiwan Chemical Substances Inventory

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**Section 16: OTHER INFORMATION**

**Classification Guidance Used**

Product is a mixture classified and labelled according to EC1272/2008.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

SVHC: Substances of Very High Concern for Authorization:

*NIOSH IDLH*

*ACGIH*

*NDF*

*Immediately Dangerous to Life or Health*

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*no data*

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Ceiling Limit Value

MAC

Maximum Allowable Concentration

X Listed

Vacated

These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that

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some reference state regulations of these "liberated" exposure limits in their state regulations.

SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

**Prepared By** Hach Product Compliance Department  
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**Restrictions on use** Please refer to the product labeling and packaging for information about appropriate use  
**Training Advice** Specific treatment (see .? on this label)

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations. **THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. HACH COMPANY©2022**

**End of Safety Data Sheet**