



Be Right™

SAFETY DATA SHEET

Issue Date 09-Aug-2016

Revision Date 12-Feb-2018

Version 3.1

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name DPD Free Chlorine Reagent
Product Code(s) 1407099

Other means of identification

Safety data sheet number M00109

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory Use. Determination of Free Chlorine.

Uses advised against No information available

Details of manufacturer or importer

Manufacturer

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

Supplier

HACH Pacific 26 Brindley Street Dandenong South, 3175 AU Tel: 1300 887 735

Emergency telephone number

13 11 26



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Section 2: Hazard(s) identification

GHS Classification

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2A - (H319)

Label elements

Exclamation mark



Signal word - Warning

Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

EU Specific Hazard Statements

Not applicable

Precautionary statements

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P362 - Take off contaminated clothing and wash before reuse

P280 - Wear protective gloves/protective clothing/eye protection/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 advice/attention

Other hazards

No information available

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Chemical Family Mixture

Substance

Not applicable

Mixture

Chemical name	Formula	CAS No.	EC No.	Percent Range
Sodium phosphate dibasic	Na ₂ HPO ₄	7558-79-4	231-448-7	30 - 40%
DPD Salt	No information available	-	-	1 - 5%
Disodium EDTA	C ₁₀ H ₁₄ N ₂ Na ₂ O ₈	139-33-3	205-358-3	1 - 5%

Section 4: FIRST AID MEASURES

Emergency telephone number

Poisons Information Center, Australia: 13 11 26

Description of necessary 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.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

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.

Ingestion 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.

For emergency responders

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms/effects, acute and delayed

Symptoms Burning sensation.

Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

Section 5: Firefighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available

Specific hazards arising from the chemical

Specific hazards arising from the chemical

No information available.

Flammable properties

Can burn in fire, releasing toxic vapors.

Explosive properties

Not classified according to GHS criteria.

Hazardous combustion products

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

Specific/special fire-fighting measures

Specific/special fire-fighting measures

No information available.

Special protective equipment and precautions for fire-fighters

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.

Other Information

Use personal protective equipment as required. Refer to protective measures listed in Sections 7 and 8.

For emergency responders

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional ecological information. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Avoid creating dust.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used

Preventive measures 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.

Precautions for safe handling

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.

Conditions for safe storage, including any incompatibilities

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

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

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

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.

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

Information on basic physical and chemical properties

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

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

Solubility(ies)**Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information**Metal Corrosivity**

Steel Corrosion Rate	Not applicable
Aluminum Corrosion Rate	Not applicable

Volatile Organic Compounds (VOC) Content

Not applicable

<u>Chemical name</u>	<u>CAS No.</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
Sodium phosphate dibasic	7558-79-4	No data available	-
DPD Salt	-	Not applicable	-
Disodium EDTA	139-33-3	No data available	-

Explosive properties

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

Flammable properties

Flash point	Not applicable
Method	No information available

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

Particle Size

No information available

Particle Size Distribution

No information available

Section 10: STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	None.

Possibility of Hazardous Reactions

Possibility of Hazardous Reactions	None under normal processing.
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Hazardous polymerization

None under normal processing.

Conditions to avoid

Conditions to avoid	None known based on information supplied.
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Incompatible materials

Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents.
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Hazardous Decomposition Products

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

Section 11: TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure**Product Information**

Inhalation	May cause irritation of respiratory tract.
Eye contact	Causes serious eye irritation.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms

Redness. May cause redness and tearing of the eyes.

Aggravated Medical Conditions	Skin disorders. Eye disorders.
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Toxicologically synergistic products None known.
Toxicokinetics, metabolism and distribution See ingredients information below.

Chemical name	Toxicokinetics, metabolism and distribution
Sodium phosphate dibasic (30 - 40%) CAS#: 7558-79-4	Phosphates are widely utilized by cells for metabolism of proteins, fats and carbohydrates.
Disodium EDTA (1 - 5%) CAS#: 139-33-3	EDTA and related compounds are poorly absorbed by the digestive system.

Product Acute Toxicity Data

Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

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

ATEmix (oral)	19,881.00 mg/kg
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Ingredient Acute Toxicity Data

Oral Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
DPD Salt (1 - 5%) CAS#: -	Rat LD ₅₀	695 mg/kg	None reported	None reported	Outside testing
Disodium EDTA (1 - 5%) CAS#: 139-33-3	Rat LD ₅₀	2000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium phosphate dibasic (30 - 40%) CAS#: 7558-79-4	Rat LD ₅₀	17000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Disodium EDTA (1 - 5%) CAS#: 139-33-3	Rabbit LD ₅₀	2300 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Specific Target Organ Toxicity Single Exposure

Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below
Inhalation (Gas) Exposure Route	If available, see data below

Aspiration toxicity

If available, see data below

Kinematic viscosity Not applicable**Product Skin Corrosion/Irritation Data**

No data available.

Ingredient Skin Corrosion/Irritation Data

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium phosphate dibasic (30 - 40%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Disodium EDTA (1 - 5%) CAS#: 139-33-3	Standard Draize Test	Rabbit	500 mg	20 hours	Not corrosive or irritating to skin	ECHA (The European Chemicals Agency)

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium phosphate dibasic (30 - 40%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Disodium EDTA (1 - 5%) CAS#: 139-33-3	Standard Draize Test	Rabbit	50 mg	None reported	Mild eye irritant	ECHA (The European Chemicals Agency)

Sensitization Information**Product Sensitization Data****Skin Sensitization Exposure Route** No data available.**Respiratory Sensitization Exposure Route** No data available.**Ingredient Sensitization Data****Skin Sensitization Exposure Route** If available, see data below.**Respiratory Sensitization Exposure Route** If available, see data below.**Chronic Toxicity Information**

Product Specific Target Organ Toxicity Repeat Dose Data

Oral Exposure Route	No data available.
Dermal Exposure Route	No data available.
Inhalation (Dust/Mist) Exposure Route	No data available.
Inhalation (Vapor) Exposure Route	No data available.
Inhalation (Gas) Exposure Route	No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below
Inhalation (Gas) Exposure Route	If available, see data below

Product Carcinogenicity Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Carcinogenicity Data

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Sodium phosphate dibasic	7558-79-4	-	-	-	-
DPD Salt	-	-	-	-	-
Disodium EDTA	139-33-3	-	-	-	-

Legend

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

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below
Inhalation (Gas) Exposure Route	If available, see data below

Product Germ Cell Mutagenicity *invitro* Data

No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data

If available, see data below

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Disodium EDTA (1 - 5%) CAS#: 139-33-3	Cytogenetic analysis	Hamster lung	200 mg/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Germ Cell Mutagenicity *in vivo* Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Germ Cell Mutagenicity *in vivo* Data

Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Reproductive Toxicity Data

Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Reproductive Toxicity Data

Oral Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

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

Product Ecological Data**Aquatic toxicity**

Fish No data available
Crustacea No data available
Algae No data available

Ingredient Ecological Data**Aquatic toxicity**

Fish If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Disodium EDTA (1 - 5%) CAS#: 139-33-3	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	159 mg/L	Vendor SDS

Crustacea If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
DPD Salt (1 - 5%) CAS#: -	48 Hours	<i>Daphina magna</i>	EC ₅₀	10.8 mg/L	Internal Data

Algae If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Disodium EDTA (1 - 5%) CAS#: 139-33-3	72 Hours	None reported	EC ₅₀	10 mg/L	Vendor SDS

Other Information**Persistence and degradability****Product Biodegradability Data**

No data available.

Ingredient Biodegradability Data

Chemical name	Test method	Biodegradation	Exposure time	Results
DPD Salt (1 - 5%) CAS#: -	None reported	None reported	None reported	Not determined

Bioaccumulation**Product Bioaccumulation Data**

No data available.

Partition Coefficient (n-octanol/water)log K_{ow} ~ 0**Ingredient Bioaccumulation Data**

Chemical name	Test method	Exposure time	Species	Bioconcentration factor (BCF)	Results
DPD Salt (1 - 5%) CAS#: -	None reported	None reported	None reported	None reported	Not determined

Mobility**Soil Organic Carbon-Water Partition Coefficient**log K_{oc} ~ 0**Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Other adverse effects

No information available.

Section 13: DISPOSAL CONSIDERATIONS**Disposal methods****Waste from residues/unused products**

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

Contaminated packaging

Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION**ADG**

Not regulated

IATA

Not regulated

IMDG

Not regulated

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 reagent set or kit, the classification given above applies. If the item is part of a reagent set or kit the classification would change to the following: UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III. If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION

Regulatory information

National regulations

Australia

Model Work Health and Safety Regulations
 [NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets
 Labelling of Workplace Hazardous Chemicals Code of Practice
 See section 8 for national exposure control parameters

National pollutant inventory

Not subject to reporting

Banned and/or restricted

No Products Listed.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	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

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

Section 16: Any other relevant information

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

NIOSH IDLH	<i>Immediately Dangerous to Life or Health</i>
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	<i>no data</i>

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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 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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Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

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.

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End of Safety Data Sheet