

AQS1411100 KIT

THE FOLLOWING HACH SAFETY DATA SHEETS ARE NEEDED FOR THE
AQS1411100 CHLORINE FREE & TOTAL N PH TEST KIT CN67:

- DPD Free Chlorine Agent
- DPD Total Chlorine Reagent
- Phenol Red Indicator Solution



Be Right™

SAFETY DATA SHEET

Issue Date 07-Jun-2016

Revision Date 15-Jun-2016

Version 1

Page 1 / 17

1. IDENTIFICATION

Product identifier

Product Name DPD Free Chlorine Reagent

Other means of identification

Product Code(s) 1407799

Safety data sheet number M00109

Component of Kits or Sets

1411100; 1411100RGT; 223102; 223102Q; 223102RGT; 2315001; 2315001RGT; 2438800; 2569600; 2569600K; 2569600RGT; 2842800; 2842800RGT; 2886800; 2886800CN; 2886900; 2886900CN; 461-XD1477.87; L2098CA; L7932; L7932K; TESTPLM3; XD1477-87

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory Use. Determination of Free Chlorine.

Uses advised against None.

Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address

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

Emergency telephone number

(303) 623-5716 - 24 Hour Service (515)232-2533 - 8am - 4pm CST

Product Information

Chemical Name	Not applicable
Formula	Not applicable
CAS No	Not applicable
Alternate CAS Number	Not applicable
NIOSH (RTECS) Number	None reported

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word - Warning



Hazard statements

H315 - Causes skin irritation
H319 - Causes serious eye irritation

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P362 - Take off contaminated clothing and wash before reuse

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

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

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

P337 + P313 - If eye irritation persists: Get medical advice/attention

Other Information

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Chemical Family

Mixture.

Chemical Name	CAS No	Weight-%	HMRC #
Carboxylate Salt	-	60.479	-
Sodium Phosphate, Dibasic	7558-79-4	35.2295	-
Salt of N,N-Diethyl-p-Phenylenediamine	-	3.1936	-
Ethylenediaminetetraacetic Acid, Disodium Salt	139-33-3	1.0978	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If symptoms persist, call a physician.
Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a physician.
Ingestion	IF SWALLOWED: Rinse Mouth. If symptoms persist, call a physician.
Self-protection of the first aider	Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11: TOXICOLOGICAL INFORMATION.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Flammable properties

Can burn in fire, releasing toxic vapors.

Specific hazards arising from the chemical

May react violently with: Strong oxidizers.

Hazardous combustion products Carbon monoxide, carbon dioxide. Phosphorus oxides. nitrogen oxides.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

U.S. 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.
EC 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.

WHMIS 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.

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.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Avoid release to the environment. See Section 12 for additional ecological information.

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. Dispose of in accordance with local, state and federal regulations or laws.

Emergency Response Guide Number Not applicable

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

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

Flammability class Not applicable

Incompatible materials Incompatible with: Oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines 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

Eye/face protection	Avoid contact with eyes. Wear tight sealing safety goggles and/or face protection shield.
Skin and body protection	Wear protective gloves and protective clothing.
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.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice. Avoid prolonged or repeated contact with skin. Take off all contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs.

Environmental exposure controls

Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid		
Gas Under Pressure	Not classified according to GHS criteria		
Appearance	Powder	Color	White to light pink
Odor	Odorless	Odor threshold	No data available

<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)	No data available	
Soil Organic Carbon-Water Partition Coefficient	No data available	
Autoignition temperature	No data available	
Decomposition temperature	110 °C /	
Dynamic viscosity	Not applicable	

Kinematic viscosity Not applicable

Solubility(ies)

Water solubility

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

Solubility in other solvents

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

Other Information

Metal Corrosivity Not classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate Not applicable

Aluminum Corrosion Rate Not applicable

Volatile Organic Compounds (VOC) Content Not applicable.

Bulk density No data available

Explosive properties Not classified according to GHS criteria.

Explosion data No data available

Upper explosion limit No data available

Lower explosion limit No data available

Flammable properties Can burn in fire, releasing toxic vapors.

Flammability Limit in Air

Upper flammability limit: No data available

Lower flammability limit: No data available

Flash point Not applicable

Method No information available

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.

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Special dangers of the product

Product Code(s) 1407799
Issue Date 07-Jun-2016
Version 1

Product Name DPD Free Chlorine Reagent
Revision Date 15-Jun-2016
Page 7 / 17

None reported

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Exposure to light. Excess moisture. Heating to decomposition. Contact with oxidizers. Poor Ventilation.

Incompatible materials

Incompatible with: Oxidizers.

Hazardous Decomposition Products

Heating to decomposition releases toxic and/or corrosive fumes of: Carbon dioxide. Carbon Monoxide. Phosphorus oxides. Nitrogen oxides.

Explosive properties

Not classified according to GHS criteria.

Upper explosion limit No data available

Lower explosion limit No data available

Autoignition temperature

No data available

Sensitivity to Static Discharge

None reported

Sensitivity to Mechanical Impact

None reported

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information	Causes skin irritation. Causes eye irritation.
Inhalation	No known effect based on information supplied.
Eye contact	Contact with eyes may cause irritation.
Skin contact	Causes skin irritation.
Ingestion	No known effect based on information supplied.
Aggravated Medical Conditions	None known.
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.
Ethylenediaminetetra acetic Acid, Disodium Salt (0 - 10%) 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

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

ATEmix (oral)	19,864.00 mg/kg
---------------	-----------------

Ingredient Acute Toxicity Data

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-Phenyl enediamine (0 - 10%) CAS#: -	Rat LD ₅₀	695 mg/kg	None reported	Musculoskeletal Decreased locomotor activity Muscle contraction or spasticity Loss of righting reflex Lungs, Thorax, or Respiration Depressed respiration Death	Internal Data
Ethylenediaminetetra acetic Acid, Disodium Salt (0 - 10%) 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
Salt of N,N-Diethyl-p-Phenyl enediamine (0 - 10%) CAS#: -	Rat LD ₅₀	970 mg/kg	None reported	None reported	Internal Data
Ethylenediaminetetra acetic Acid, Disodium Salt (0 - 10%) 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 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

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

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)

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

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)

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 No data available.

Respiratory Sensitization Exposure Route No data available.

Chronic Toxicity Information

Product Repeat Dose 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 Repeat Dose 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

Product Code(s) 1407799
Issue Date 07-Jun-2016
Version 1

Product Name DPD Free Chlorine Reagent
Revision Date 15-Jun-2016
Page 10 / 17

Inhalation (Gas) Exposure Route

No data available

Chemical Name	CAS No	ACGIH	IARC	NTP	OSHA
Carboxylate Salt	-	-	-	-	-
Sodium Phosphate, Dibasic	7558-79-4	-	-	-	-
Salt of N,N-Diethyl-p-Phenylenediamine	-	-	-	-	-
Ethylenediaminetetraacetic Acid, Disodium Salt	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)	X - Present

Product Carcinogenicity Data

No data available

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

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

Product Germ Cell Mutagenicity *invitro* Data

No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data

Toxicological data for ingredients is not indicative of likely harm.

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

Product Code(s) 1407799
Issue Date 07-Jun-2016
Version 1

Product Name DPD Free Chlorine Reagent
Revision Date 15-Jun-2016
Page 11 / 17

Inhalation (Gas) Exposure Route No data available

Ingredient Germ Cell Mutagenicity *invivo* 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

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 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

12. ECOLOGICAL INFORMATION

Ecotoxicity Based on the classification principles, not classified as hazardous to the environment.

Product Ecological Data

Aquatic toxicity No data available

Fish No data available

Crustacea No data available

Algae No data available

Terrestrial toxicity No data available

Soil No data available

Vertebrates No data available

Invertebrates No data available

Ingredient Ecological Data

Aquatic toxicity No data available

Fish

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Salt of N,N-Diethyl-p-Phenyl enediamine (0 - 10%) CAS#: -	96 hours	<i>Daphnia magna</i>	None reported	21.6 mg/L	Internal Data
Ethylenediaminetetra acetic Acid, Disodium Salt (0 - 10%) CAS#: 139-33-3	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	159 mg/L	Vendor SDS
Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Salt of N,N-Diethyl-p-Phenyl enediamine (0 - 10%) CAS#: -	24 hours	None reported	None reported	12.5 mg/L	Internal Data

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 (0 - 10%) CAS#: -	48 Hours	<i>Daphnia magna</i>	EC ₅₀	10.8 mg/L	No information available

Algae

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Ethylenediaminetetra acetic Acid, Disodium Salt (0 - 10%) CAS#: 139-33-3	72 Hours	None reported	EC ₅₀	10 mg/L	Vendor SDS

Terrestrial toxicity

Soil	No data available
Vertebrates	No data available
Invertebrates	No data available

Other Information

Persistence and degradability
 None known.

Product Biodegradability Data
 No data available.

Ingredient Biodegradability Data
 No data available

Bioaccumulation

None known.

Product Bioaccumulation Data No data available.

Ingredient Bioaccumulation Data No data available

Additional information

Product Information No data available

Partition Coefficient (n-octanol/water) No data available

Ingredient Information

Chemical Name	Partition Coefficient (n-octanol/water)	Method
Salt of N,N-Diethyl-p-Phenylenediamine (0 - 10%) CAS#: -	log K _{ow} = -1.56	No information available
Ethylenediaminetetraacetic Acid, Disodium Salt (0 - 10%) CAS#: 139-33-3	log K _{ow} < 0	No information available

Mobility

Mobility in soil: Moderate to high mobility. If available, see ingredient data below.

Product Information No data available

Soil Organic Carbon-Water Partition Coefficient No data available

Ingredient Information

Chemical Name	Soil Organic Carbon-Water Partition Coefficient	Method
Ethylenediaminetetraacetic Acid, Disodium Salt (0 - 10%) CAS#: 139-33-3	log K _{oc} < 0	No information available

Additional information

Water solubility

Product Information

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

Ingredient Information

Chemical Name	Water solubility classification	Water solubility	Water solubility temperature °C	Water solubility temperature °F
Carboxylate Salt (60 - 70%) CAS#: -	Soluble	> 1000 mg/L	25 °C	77 °F
Sodium Phosphate, Dibasic	Completely soluble	118000 mg/L	20 °C	68 °F

(30 - 40%) CAS#: 7558-79-4				
Salt of N,N-Diethyl-p-Phenylenediamine (0 - 10%) CAS#: -	Completely soluble	> 10000 mg/L	25 °C	77 °F
Ethylenediaminetetraacetic Acid, Disodium Salt (0 - 10%) CAS#: 139-33-3	Completely soluble	100000 mg/L	20 °C	68 °F

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	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. Dispose of empty container as normal trash. 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 in countries other than the US. Improper disposal or reuse of this container may be dangerous and illegal. Disposal should be in accordance with applicable regional, national and local laws and regulations.
Special instructions for 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.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated

Note: No special precautions necessary.

15. REGULATORY INFORMATION

National Inventories

TSCA	Complies
DSL/NDSL	Complies
INSQ	Does not comply

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

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

INSQ - National Inventory of Chemical Substances in Mexico

Product Code(s) 1407799
Issue Date 07-Jun-2016
Version 1

Product Name DPD Free Chlorine Reagent
Revision Date 15-Jun-2016
Page 15 / 17

International Inventories

EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Does not comply
AICS	Complies
NZIoC	Complies

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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium Phosphate, Dibasic 7558-79-4	5000 lb	-	-	X

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium Phosphate, Dibasic 7558-79-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Product Code(s) 1407799
Issue Date 07-Jun-2016
Version 1

Product Name DPD Free Chlorine Reagent
Revision Date 15-Jun-2016
Page 16 / 17

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.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Sodium Phosphate, Dibasic 7558-79-4	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA and HMIS Classifications

NFPA	Health hazards - 2	Flammability - 0	Instability - 0	Physical and Chemical Properties -
HMIS	Health hazards - 2	Flammability - 0	Physical hazards - 0	Personal protection - X - See section 8 for more information

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

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

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
X	Listed	Vacated	te 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

Issue Date 07-Jun-2016

Revision Date 15-Jun-2016

Revision Note None
New SDS

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.

Product Code(s) 1407799
Issue Date 07-Jun-2016
Version 1

Product Name DPD Free Chlorine Reagent
Revision Date 15-Jun-2016
Page 17 / 17

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 ©2015

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 19-Oct-2016

Revision Date 26-Apr-2017

Version 4.1

Page 1 / 20

1. IDENTIFICATION

Product identifier

Product Name DPD Total Chlorine Reagent

Other means of identification

Product Code(s) 1407699

Safety data sheet number M00110

HMRIC # HMIRA Registry Number 9936 Filed 2016-04-11

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Indicator for total chlorine.

Uses advised against None.

Restrictions on use None.

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

Emergency telephone number

+1 (303) 623-5716 - 24 Hour Service +1 (515)232-2533 - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word - Warning



Hazard statements

H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements

P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves
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
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse

Other Information

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Sodium phosphate dibasic	7558-79-4	20 - 30%	-
Potassium iodide (KI)	7681-11-0	20 - 30%	-
Salt of N,N-Diethyl-p-Phenylenediamine	-	1 - 5%	-
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt, dihydrate	6381-92-6	0.1 - 1%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	IF IN EYES: Flush eyes for at least 15 minutes. May cause skin irritation.
Eye contact	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.
Skin contact	For minor skin contact, avoid spreading material on unaffected skin. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Remove and isolate contaminated clothing and shoes. Call a POISON CENTER or doctor if you feel unwell. If skin irritation persists, call a physician.
Inhalation	Aspiration into lungs can produce severe lung damage.
Ingestion	Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Remove from exposure, lie down. Call a POISON CENTER or doctor/physician if you feel unwell. Do not induce vomiting without medical advice.
Self-protection of the first aider	Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms	See Section 11: TOXICOLOGICAL INFORMATION.
----------	--------------------------------------------

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
--------------------	------------------------

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Flammable properties

During a fire, this product decomposes to form toxic gases.

Specific hazards arising from the chemical

None reported.

Hazardous combustion products

Carbon monoxide, Carbon dioxide. Iodine compounds. Phosphorus oxides. Potassium oxides. Sodium monoxide. Nitrogen oxides.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

U.S. 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.

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.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

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. Dispose of in accordance with local, state and federal regulations or laws.

Emergency Response Guide Number Not applicable

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

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

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium iodide (KI) 20 - 30%	TWA: 0.01 ppm	NDF	NDF

Chemical name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick OEL	Newfoundland & Labrador OEL
Potassium iodide (KI) 20 - 30%	NDF	NDF	TWA: 0.01 ppm	NDF	TWA: 0.01 ppm

Chemical name	Northwest Territories OEL	Nova Scotia OEL	Nunavut OEL	Ontario TWA	Prince Edward Island OEL
Potassium iodide (KI) 20 - 30%	NDF	TWA: 0.01 ppm	NDF	TWA: 0.01 ppm	TWA: 0.01 ppm

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

Eye/face protection Wear tight sealing safety goggles and/or face protection shield. Avoid contact with eyes.

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice. Avoid prolonged or repeated contact with skin. Take off all contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs.

Environmental exposure controls

Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid		
Gas Under Pressure	Not classified according to GHS criteria		
Appearance	powder	Color	White to light pink
Odor	Odorless	Odor threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	No data available	
Melting point/freezing point	145 °C / 293 °F	
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)	1.79	
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	No data available
Dynamic viscosity	Not applicable
Kinematic viscosity	Not applicable

Solubility(ies)

Water solubility

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

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
None reported	No information available	No data available	No information available

Other Information

Metal Corrosivity	Not classified as corrosive to metal according to GHS criteria
Steel Corrosion Rate	0.97 mm/yr / 0.04 in/yr
Aluminum Corrosion Rate	0.15 mm/yr / 0.01 in/yr
Volatile Organic Compounds (VOC) Content	Not applicable.
Bulk density	No data available
Explosive properties	Not classified according to GHS criteria.
Explosion data	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Flammable properties	During a fire, this product decomposes to form toxic gases.
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Flash point	Not applicable
Method	No information available
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.

10. STABILITY AND REACTIVITY

Reactivity properties

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria

Chemical stability

Stable under recommended storage conditions.

Special dangers of the product

None reported

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Extremes of temperature and direct sunlight. Incompatible materials.

Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide. Iodine compounds. Phosphorus oxides. Potassium oxide. Nitrogen oxides.

Explosive properties

Not classified according to GHS criteria.

Upper explosion limit No data available

Lower explosion limit No data available

Autoignition temperature

No data available

Sensitivity to Static Discharge

None reported

Sensitivity to Mechanical Impact

None reported

11. TOXICOLOGICAL INFORMATION

NIOSH (RTECS) Number None reported

Information on Likely Routes of Exposure

Product Information	Causes skin irritation. Causes serious eye irritation. May be harmful if swallowed.
Inhalation	No known effect based on information supplied.
Eye contact	Contact with eyes may cause irritation. Severely irritating to eyes.
Skin contact	Causes skin irritation.
Ingestion	May be harmful if swallowed. Ingestion may cause irritation to

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

Chemical name	Toxicokinetics, metabolism and distribution
Sodium phosphate dibasic (20 - 30%) CAS#: 7558-79-4	Phosphates are widely utilized by cells for metabolism of proteins, fats and carbohydrates.
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	May cross placenta and be excreted in breast milk. May react synergistically with mercury.
Glycine, N,N-1,2-ethanediylbis [N-(carboxymethyl)-], disodium salt, dihydrate (0.1 - 1%) CAS#: 6381-92-6	EDTA and related compounds are poorly absorbed by the digestive system.

Product Acute Toxicity Data

Test data reported below

Oral Exposure Route

<u>Endpoint type</u>	<u>Reported dose</u>	<u>Toxicological effects</u>	<u>Key literature references and sources for data</u>
Rat LD ₅₀	4700 mg/kg	Behavioral Flaccid muscle tone Lethargy Prostration Eye Chromodacryorrhea Ptosis Gastrointestinal Abnormalities of the gastrointestinal tract Diarrhea Liver Abnormalities of the liver Lungs, Thorax, or Respiration Abnormalities of the lungs Dyspnea Red or brown staining of the nose/mouth area Nutritional and Gross Metabolic Soiling of the anogenital area Wetness of the anogenital area Reproductive Skin and Appendages Piloerection	Outside testing

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

Acute Toxicity Estimations (ATE)

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
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Rat LD ₅₀	2779 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Salt of N,N-Diethyl-p-Phenyl enediamine (1 - 5%)	Rat LD ₅₀	695 mg/kg	None reported	None reported	No information available

CAS#: -					
Glycine, N,N-1,2-ethanediylibis [N-(carboxymethyl)-, disodium salt, dihydrate (0.1 - 1%) CAS#: 6381-92-6	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 (20 - 30%) CAS#: 7558-79-4	Rat LD ₅₀	17000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Mouse LD ₅₀	1000 mg/kg	None reported	None reported	Vendor SDS
Salt of N,N-Diethyl-p-Phenyl enediamine (1 - 5%) CAS#: -	Rat LD ₅₀	970 mg/kg	None reported	None reported	No information available
Glycine, N,N-1,2-ethanediylibis [N-(carboxymethyl)-, disodium salt, dihydrate (0.1 - 1%) CAS#: 6381-92-6	LD ₅₀	2300 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

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

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route

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

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Mouse LD ₅₀	1862 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route No data available

Product Code(s) 1407699
Issue Date 19-Oct-2016
Version 4.1

Product Name DPD Total Chlorine Reagent
Revision Date 26-Apr-2017
Page 11 / 20

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

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 (20 - 30%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Standard Draize Test	Rabbit	None reported	None reported	Skin irritant	No information available
Glycine, N,N-1,2-ethanediylibis [N-(carboxymethyl)-, disodium salt, dihydrate (0.1 - 1%) CAS#: 6381-92-6	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 (20 - 30%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	None reported	Rabbit	None reported	None reported	Eye irritant	HSDB (Hazardous Substances Data Bank)
Glycine, N,N-1,2-ethanediylibis [N-(carboxymethyl)-, disodium salt, dihydrate (0.1 - 1%) CAS#: 6381-92-6	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.

Chemical name	Test method	Species	Results	Key literature references and sources for data
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Patch test	Human	Not confirmed to be a skin sensitizer	ERMA (New Zealand's Environmental Risk Management Authority)

Respiratory Sensitization Exposure Route No data available.

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 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

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Sodium phosphate dibasic	7558-79-4	-	-	-	-
Potassium iodide (KI)	7681-11-0	-	-	-	-
Salt of N,N-Diethyl-p-Phenylenediamine	-	-	-	-	-
Glycine, N,N-1,2-ethanediylibis[N-(carboxymethyl)-, disodium salt, dihydrate]	6381-92-6	-	-	-	-

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

Product Carcinogenicity Data No data available

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

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

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
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Cytogenetic analysis	Rat ascites tumor	500 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Glycine, N,N-1,2-ethanediylibis [N-(carboxymethyl)-, disodium salt, dihydrate (0.1 - 1%) CAS#: 6381-92-6	Cytogenetic analysis	Hamster lung	200 mg/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

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 *invivo* 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
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

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Human TD _{Lo}	2700 mg/kg	39 weeks	Specific Developmental Abnormalities Endocrine System	RTECS (Registry of Toxic Effects of Chemical Substances)
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Human TD _{Lo}	3240 mg/kg	39 weeks	Effects on Newborn Other neonatal measures or effects Physical Specific Developmental Abnormalities Endocrine system	RTECS (Registry of Toxic Effects of Chemical Substances)

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Based on the classification principles, not classified as hazardous to the environment.

Product Ecological Data

Aquatic toxicity

Fish

No data available

Crustacea

No data available

Algae No data available

Terrestrial toxicity

Soil No data available

Vertebrates No data available

Invertebrates No data available

Ingredient Ecological Data

Aquatic toxicity

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	If available, see ingredient data below Key literature references and sources for data
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	896 mg/L	PEEN (Pan European Ecological Network)
Glycine, N,N-1,2-ethanediylbis [N-(carboxymethyl)-, disodium salt, dihydrate (0.1 - 1%) CAS#: 6381-92-6	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	159 mg/L	Vendor SDS

Crustacea No data available

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	If available, see ingredient data below Key literature references and sources for data
Glycine, N,N-1,2-ethanediylbis [N-(carboxymethyl)-, disodium salt, dihydrate (0.1 - 1%) CAS#: 6381-92-6	72 Hours	None reported	EC ₅₀	10 mg/L	Vendor SDS

Terrestrial toxicity

Soil No data available

Vertebrates No data available

Invertebrates No data available

Other Information

**Canadian Environmental Protection Act (CEPA) - Domestic Substances List (DSL):
Environmentally Hazardous Substances Categorizations**

Persistence and degradability

None known.

Product Biodegradability Data

No data available.

Ingredient Biodegradability Data

No data available

Bioaccumulation

Does not have the potential to bioaccumulate according to GHS criteria.

Product Bioaccumulation Data

No data available.

Ingredient Bioaccumulation Data

No data available

Additional information

Product Information

Partition Coefficient (n-octanol/water)

$\log K_{ow} \sim 0$

Ingredient Information

Chemical name	Partition Coefficient (n-octanol/water)	Method
Sodium phosphate dibasic (20 - 30%) CAS#: 7558-79-4	$\log K_{ow} \sim 0$	No information available
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	$\log K_{ow} \sim 0$	No information available
Salt of N,N-Diethyl-p-Phenylenediamine (1 - 5%) CAS#: -	Partition coefficient	No information available
Glycine, N,N-1,2-ethanediylibis[N-(carboxymethyl)-, disodium salt, dihydrate (0.1 - 1%) CAS#: 6381-92-6	$\log K_{ow} < 0$	No information available

Mobility

Mobility in soil: High mobility. If available, see ingredient data below.

Product Information

Soil Organic Carbon-Water Partition Coefficient

$\log K_{oc} \sim 0$

Ingredient Information

Chemical name	Soil Organic Carbon-Water Partition Coefficient	Method
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	$\log K_{oc} \sim 0$	No information available
Glycine, N,N-1,2-ethanediylibis[N-(carboxymethyl)-, disodium salt, dihydrate (0.1 - 1%) CAS#: 6381-92-6	$\log K_{oc} < 0$	No information available

Additional information

Water solubility

Product Information

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

Ingredient Information

Chemical name	Water solubility classification	Water solubility	Water solubility temperature °C	Water solubility temperature °F
Sodium phosphate dibasic CAS#: 7558-79-4	Completely soluble	118000 mg/L	20 °C	68 °F
Potassium iodide (KI) CAS#: 7681-11-0	Completely soluble	1400000 mg/L	20 °C	68 °F
Salt of N,N-Diethyl-p-Phenylenediamine CAS#: -	Completely soluble	> 10000 mg/L	25 °C	77 °F
Glycine, N,N-1,2-ethanediylibis[N-(carboxymethyl)-, disodium salt, dihydrate CAS#: 6381-92-6	Completely soluble	100000 mg/L	20 °C	68 °F

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Contaminated packaging 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. Dispose of empty container as normal trash. 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 in countries other than the US. Improper disposal or reuse of this container may be dangerous and illegal. Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Special instructions for 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. Check with national, local municipal and state authorities and waste contractors for pertinent local information on the disposal of this article.

14. TRANSPORT INFORMATION

U.S. DOT	Not regulated
TDG	Not regulated
IATA	Not regulated

IMDG Not regulated

Note: No special precautions necessary.

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.

15. REGULATORY INFORMATION

National Inventories

TSCA	Complies
DSL/NDSL	Complies

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

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

International Inventories

EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium phosphate	5000 lb	-	-	X

Product Code(s) 1407699
Issue Date 19-Oct-2016
Version 4.1

Product Name DPD Total Chlorine Reagent
Revision Date 26-Apr-2017
Page 19 / 20

dibasic 7558-79-4				
----------------------	--	--	--	--

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium phosphate dibasic 7558-79-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

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.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium phosphate dibasic 7558-79-4	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)
Not applicable

NFPA and HMIS Classifications

NFPA	Health hazards - 2	Flammability - 0	Instability - 0	Physical and Chemical Properties -
HMIS	Health hazards - 2	Flammability - 0	Physical Hazards - 0	Personal protection - X - See section 8 for more information

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

NIOSH IDLH
ACGIH

Immediately Dangerous to Life or Health
ACGIH (American Conference of Governmental Industrial Hygienists)

Product Code(s) 1407699
Issue Date 19-Oct-2016
Version 4.1

Product Name DPD Total Chlorine Reagent
Revision Date 26-Apr-2017
Page 20 / 20

NDF

no data

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
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

Issue Date 19-Oct-2016

Revision Date 26-Apr-2017

Revision Note None

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©2017

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 05-Jul-2016

Revision Date 16-Mar-2017

Version 4

Page 1 / 15

1. IDENTIFICATION

Product identifier

Product Name Phenol Red Indicator Solution

Other means of identification

Product Code(s) 21132

Safety data sheet number M00349

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Indicator for pH.

Uses advised against None.

Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address

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

Emergency telephone number

(303) 623-5716 - 24 Hour Service (515)232-2533 - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not Hazardous

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Hazard statements

EUH210 - Safety data sheet available on request

EUH208 - May produce an allergic reaction

The product contains no substances which at their given concentration, are considered to be hazardous to health

Other Information

Causes mild skin irritation

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Percent ranges are used where confidential product information is applicable.

Chemical Name	CAS No	Percent Range	HMRIC #
1,2-Propanediol	57-55-6	40 - 50%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	IF IN EYES: Flush eyes for at least 15 minutes. May cause skin irritation.
Eye contact	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.
Skin contact	For minor skin contact, avoid spreading material on unaffected skin. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Remove and isolate contaminated clothing and shoes. Call a POISON CENTER or doctor if you feel unwell. If skin irritation persists, call a physician.
Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a physician.
Ingestion	IF SWALLOWED: Rinse Mouth. If symptoms persist, call a physician.
Self-protection of the first aider	Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11: TOXICOLOGICAL INFORMATION.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Flammable properties

Can burn in fire, releasing toxic vapors.

Specific hazards arising from the chemical

None reported.

Hazardous combustion products

Carbon monoxide, Carbon dioxide.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

U.S. 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.
EC 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.
WHMIS 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.

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.
For emergency responders	Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions	See Section 12 for additional ecological information.
----------------------------------	-------------------------------------------------------

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up	Neutralize spill if necessary. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws.

Emergency Response Guide Number	Not applicable
----------------------------------------	----------------

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.
--------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.
Flammability class	Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	Northwest Territories OEL	Nova Scotia OEL	Nunavut OEL	Ontario TWA	Prince Edward Island OEL
1,2-Propanediol 40 - 50%	NDF	NDF	NDF	TWA: 10 mg/m ³ TWA: 50 ppm TWA: 155 mg/m ³	NDF

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

Eye/face protection Wear tight sealing safety goggles and/or face protection shield. Avoid contact with eyes.
Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.
Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice.
Avoid prolonged or repeated contact with skin. Take off all contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs.

Environmental exposure controls

Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid

Gas Under Pressure Not classified according to GHS criteria

Appearance aqueous solution Color red

Odor None Odor threshold No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	No data available	

Melting point/freezing point	~ -29 °C / -20 °F	Estimation based on theoretical calculation
Boiling point / boiling range	140 °C / 284 °F	
Evaporation rate	1.1 (water = 1)	Estimation based on theoretical calculation
Vapor pressure	20.327 mm Hg / 2.71 kPa at 25 °C / 77 °F	Estimation based on theoretical calculation
Vapor density (air = 1)	0.62 (air = 1)	
Specific gravity (water = 1 / air = 1)	No data available	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

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

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
None reported	No information available	No data available	No information available

Other Information

Metal Corrosivity	Not classified as corrosive to metal according to GHS criteria
Steel Corrosion Rate	No data available
Aluminum Corrosion Rate	No data available
Volatile Organic Compounds (VOC) Content	See ingredients information below.
Bulk density	Not applicable
Explosive properties	Not classified according to GHS criteria.
Explosion data	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available

Product Code(s) 21132
Issue Date 05-Jul-2016
Version 4

Product Name Phenol Red Indicator Solution
Revision Date 16-Mar-2017
Page 6 / 15

Flammable properties	Can burn in fire, releasing toxic vapors.
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Flash point	No data available
Method	No information available
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.

10. STABILITY AND REACTIVITY

Reactivity properties

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria

Chemical stability

Stable under recommended storage conditions.

Special dangers of the product

None reported

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Extremes of temperature and direct sunlight. Incompatible materials.

Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide.

Explosive properties

Not classified according to GHS criteria.

Upper explosion limit No data available

Lower explosion limit No data available

Autoignition temperature

No data available

Sensitivity to Static Discharge

None reported

Sensitivity to Mechanical Impact

None reported

11. TOXICOLOGICAL INFORMATION

NIOSH (RTECS) Number None reported

Information on Likely Routes of Exposure

Product Information	Causes mild skin irritation.
Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin contact	Causes mild skin irritation.
Ingestion	No known effect based on information supplied.
Aggravated Medical Conditions	Skin disorders.
Toxicologically synergistic products	None known.
Toxicokinetics, metabolism and distribution	See ingredients information below.

Chemical Name	Toxicokinetics, metabolism and distribution
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	Based on human data (oral child), large doses over prolonged period of time cause behavioral changes.

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

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
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	Rat LD ₅₀	20000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route		If available, see data below			
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	Rabbit LD ₅₀	20800 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route If available, see data below

Inhalation (Gas) Exposure Route No data available

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
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	Standard Draize Test	Human	500 mg	7 days	Mild skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	Standard Draize Test	Human	104 mg	72 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

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
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	Standard Draize Test	Rabbit	500 mg	24 hours	Mild eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

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 No data available.

Chronic Toxicity Information

Product Repeat Dose 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 Repeat Dose 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 If available, see data below

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	Rat TC _{Lo}	2.180 mg/L	90 days	Behavioral Food intake Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases) Endocrine Changes in spleen weight	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route No data available

Chemical Name	CAS No	ACGIH	IARC	NTP	OSHA
1,2-Propanediol	57-55-6	-	-	-	-

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

Product Carcinogenicity Data No data available

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

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

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
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	Cytogenetic analysis	Hamster fibroblast	32000 mg/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

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 *invivo* 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

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 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

12. ECOLOGICAL INFORMATION

Ecotoxicity Based on the classification principles, not classified as hazardous to the environment.

Product Ecological Data

Aquatic toxicity

Fish No data available

Crustacea	No data available
Algae	No data available
Terrestrial toxicity	
Soil	No data available
Vertebrates	No data available
Invertebrates	No data available

Ingredient Ecological Data

Aquatic toxicity

If available, see ingredient data below					
Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	96 hours	<i>Pimephales promelas</i>	LC ₅₀	51400 mg/L	IUCLID (The International Uniform Chemical Information Database)

Crustacea If available, see ingredient data below

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	48 Hours	<i>Daphnia magna</i>	LC ₅₀	34400 mg/L	IUCLID (The International Uniform Chemical Information Database)

Algae If available, see ingredient data below

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	96 hours	<i>Selenastrum capricornutum</i>	EC ₅₀	19000 mg/L	IUCLID (The International Uniform Chemical Information Database)

Terrestrial toxicity

Soil	No data available
Vertebrates	No data available
Invertebrates	No data available

Other Information

Persistence and degradability

None known.

Product Biodegradability Data

No data available.

Ingredient Biodegradability Data

No data available

Bioaccumulation

If available, see ingredient data below.

Product Bioaccumulation Data No data available.

Ingredient Bioaccumulation Data No data available

Additional information

Product Information

Partition Coefficient (n-octanol/water) Not applicable

Ingredient Information

Chemical Name	Partition Coefficient (n-octanol/water)	Method
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	log K _{ow} = -0.92	No information available

Mobility

Mobility in soil: High mobility. If available, see ingredient data below.

Product Information

Soil Organic Carbon-Water Partition Coefficient Not applicable

Ingredient Information

Chemical Name	Soil Organic Carbon-Water Partition Coefficient	Method
1,2-Propanediol (40 - 50%) CAS#: 57-55-6	log K _{oc} = -0.41	No information available

Additional information

Water solubility

Product Information

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

Ingredient Information

Chemical Name	Water solubility classification	Water solubility	Water solubility temperature °C	Water solubility temperature °F
1,2-Propanediol CAS#: 57-55-6	Completely soluble	100000 mg/L	20 °C	68 °F

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes	Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Contaminated packaging	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. Dispose of empty container as normal trash. 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 in countries other than the US. Improper disposal or reuse of this container may be dangerous and illegal. Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Special instructions for disposal	Dilute to 3 to 5 times the volume with cold water. 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.

14. TRANSPORT INFORMATION

U.S. DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated

Note: No special precautions necessary.

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.

15. REGULATORY INFORMATION

National Inventories

TSCA Complies

DSL/NDSL Complies

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

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

International Inventories

EINECS/ELINCS Complies

ENCS Complies

IECSC Complies

KECL Complies

PICCS Complies

TCSI Complies

AICS Complies

NZIoC Complies

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

Product Code(s) 21132
Issue Date 05-Jul-2016
Version 4

Product Name Phenol Red Indicator Solution
Revision Date 16-Mar-2017
Page 14 / 15

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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
1,2-Propanediol 57-55-6	X	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)
Not applicable

NFPA and HMIS Classifications

NFPA	Health hazards - 1	Flammability - 0	Instability - 0	Physical and Chemical Properties -
HMIS	Health hazards - 1	Flammability - 0	Physical Hazards - 0	Personal protection - X - See section 8 for more information

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

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

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
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

Issue Date 05-Jul-2016

Revision Date 16-Mar-2017

Revision Note None

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©2017

End of Safety Data Sheet

