

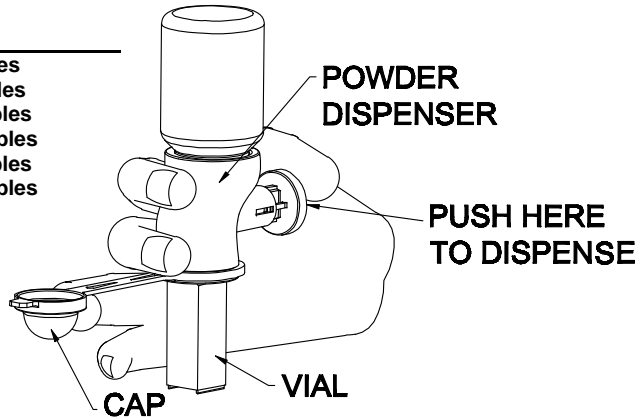


DPD Dispenser For Free Chlorine

The HF scientific DPD dispenser is a gravity system, it will only work properly when used vertically as shown in the drawing below. The dispenser is designed for use with HF scientific, Hach[†] and most test kits.

Test Description

Free Chlorine, 5 ml samples
Total Chlorine, 5 ml samples
Free Chlorine, 10 ml samples
Total Chlorine, 10 ml samples
Free Chlorine, 25 ml samples
Total Chlorine, 25 ml samples



Directions:

1. Refer to your test kit instruction manual for sample preparation. At the point where the manual directs you to add reagent, proceed as outlined below.
2. Briefly shake dispenser prior to use.
3. Unsnap the cap on the bottom of the dispenser.
4. Place the dispenser over the top of the sample container.
5. Fully depress the button on the dispenser and then release.
6. Close the cap on the dispenser.
7. Cover the sample container and invert three times to thoroughly mix and dissolve the DPD powder.
8. If testing free chlorine, read the sample immediately. If testing total chlorine, wait two minutes before reading.
9. Record the results in the appropriate manner.

[†]Hach is a registered trademark of the Hach Chemical Co.

Suggested Dosing Chart

DPD Product	Concentration Range	# of Doses	Sample Volume
5ml Dispenser for Free/Total Chlorine	0-6 mg/L	1	5ml
10ml Dispenser for Free/Total Chlorine	0-3 mg/L	1	10ml
	3-6 mg/L*	2	10ml
25ml Dispenser for Free/Total Chlorine	0-1 mg/L	1	25ml
	1-2 mg/L*	2	25ml

*For best results, add one dose of dpd into sample, mix 30 seconds, add second dose of dpd, mix 30 seconds and read

DATE: April 1, 2010

REVISION: 12

MATERIAL SAFETY DATA SHEET

HF scientific, inc. 24 Hour Emergency
3170 Metro Parkway Telephone Number
Fort Myers, FL 33916-7597 CHEMTREC
(239) 337-2116 1-800-424-9300

SECTION 1 PRODUCT IDENTIFICATION:

PRODUCT NAME: **DPD FREE CHLORINE REAGENT**

CATALOG NUMBERS:

HF scientific, inc.:	10119	10307	10425	10445A	10501	10505T
	10188	10312	10426	10445V	10504	10517
	10300	10313	10439A	10447A	10504C	10519
	10301	10403	10440	10500	10504T	11921
	10306	10405	10441	10500C	10505	

For products with lot numbers above 21000

USA BlueBook	34441	34442	34443	34444	34451	34452
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CHEMICAL FAMILY: Not applicable

SYNONYMS: Not applicable

FORMULA:

Carboxylate Salt	Confidential
Sodium Phosphate, Dibasic	CAS # 7558-79-4
EDTA	CAS # 6381-92-6
DPD Salt	Confidential

SECTION 2 HAZARDOUS INGREDIENTS

Hazardous	OSHA PEL	ACGIH TLV	Other Limits
Ingredient(s):			Recommended
DPD [†] Salt	Not established		None
[†] (N,N-Diethyl-p-Phenylenediamine)			

SECTION 3 PHYSICAL DATA

BOILING POINT (F): Not applicable
SOLUBILITY IN WATER: Soluble
VAPOR PRESSURE (mm Hg): Not applicable
MELTING POINT: Not found - Decomposes
APPEARANCE AND ODOR: White to pale pink powder, no odor
VAPOR DENSITY (AIR=1): Not applicable
SPECIFIC GRAVITY (H₂O=1): Not available
EVAPORATION RATE: Not applicable

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): Not flammable
FLAMMABLE LIMITS:
LEL: Not applicable **UEL:** Not applicable
EXTINGUISHING MEDIA: Water, dry chemical, alcohol foam, or carbon dioxide.
FIRE FIGHTING PROCEDURES: Suitable to cause of fire. Wear protective clothing and self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSIVE HAZARDS: May emit toxic fumes.

SECTION 5 HEALTH HAZARD EFFECTS AND FIRST AID

ROUTE(S) OF ENTRY: Inhalation? Yes. Skin? Yes. Ingestion? Yes.
HEALTH HAZARDS (ACUTE AND CHRONIC): Irritating to eyes and respiratory tract. May cause allergic skin reaction.
CARCINOGENICITY: NTP? IARC Monographs? OSHA Regulated? Not listed
SIGNS AND SYMPTOMS OF EXPOSURE: Moderately toxic. Rash, irritation of eyes and respiratory tract. May be absorbed through skin and may be sensitizing to skin.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Allergy or sensitivity to salts of DPD.
EMERGENCY FIRST AID PROCEDURES:
Eye And Skin Exposure: Immediately flush eyes with water for 15 minutes. Call physician. Wash skin with soap and plenty of water.
Ingestion: Give large quantities of water or milk. Call physician immediately.
Inhalation: Remove to fresh air.

SECTION 6 REACTIVITY DATA

STABILITY: Stable under normal conditions of use and storage
CONDITIONS TO AVOID: Exposure to light, heat, and moisture.
INCOMPATIBILITIES (MATERIALS TO AVOID): Strong oxidizing agents
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Toxic fumes
HAZARDOUS POLYMERIZATION: Will not occur

SECTION 7 SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Scoop into a beaker and dissolve in water.
WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Wash thoroughly after handling. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Use only with adequate ventilation. Store in a cool, dry, dark place.
OTHER PRECAUTIONS: None

SECTION 8 CONTROL MEASURES

RESPIRATORY PROTECTION: Not necessary in normal use.
VENTILATION SYSTEMS: General mechanical ventilation satisfactory in normal use.
EYE PROTECTION: Safety glasses
SKIN PROTECTION: Rubber gloves
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Lab coat, eye wash, safety shower
WORK/HYGIENE PRACTICES: Wash well after handling. Avoid skin contact.

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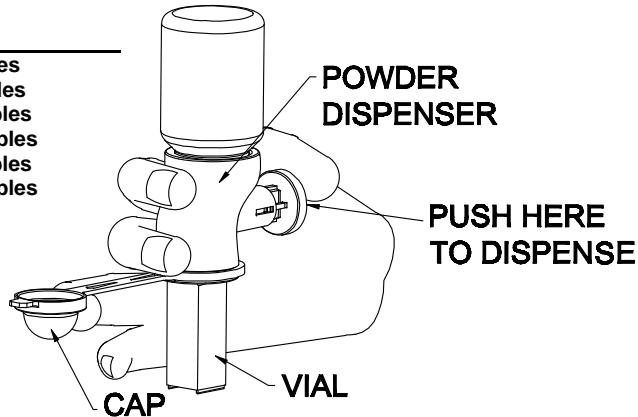


DPD Dispenser For Total Chlorine

The HF scientific DPD dispenser is a gravity system, it will only work properly when used vertically as shown in the drawing below. The dispenser is designed for use with HF scientific, Hach[†] and most test kits.

Test Description

- Free Chlorine, 5 ml samples
- Total Chlorine, 5 ml samples
- Free Chlorine, 10 ml samples
- Total Chlorine, 10 ml samples
- Free Chlorine, 25 ml samples
- Total Chlorine, 25 ml samples



Directions:

1. Refer to your test kit instruction manual for sample preparation. At the point where the manual directs you to add reagent, proceed as outlined below.
2. Briefly shake dispenser prior to use.
3. Unsnap the cap on the bottom of the dispenser.
4. Place the dispenser over the top of the sample container.
5. Fully depress the button on the dispenser and then release.
6. Close the cap on the dispenser.
7. Cover the sample container and invert three times to thoroughly mix and dissolve the DPD powder.
8. If testing free chlorine, read the sample immediately. If testing total chlorine, wait two minutes before reading.
9. Record the results in the appropriate manner.

[†]Hach is a registered trademark of the Hach Chemical Co.

Suggested Dosing Chart

DPD Product	Concentration Range	# of Doses	Sample Volume
5ml Dispenser for Free/Total Chlorine	0-6 mg/L	1	5ml
10ml Dispenser for Free/Total Chlorine	0-3 mg/L	1	10ml
	3-6 mg/L*	2	10ml
25ml Dispenser for Free/Total Chlorine	0-1 mg/L	1	25ml
	1-2 mg/L*	2	25ml

*For best results, add one dose of dpd into sample, mix 30 seconds, add second dose of dpd, mix 30 seconds and read

DATE: April 18, 2008

REVISION: 11

MATERIAL SAFETY DATA SHEET

HF scientific, inc.
3170 Metro Parkway
Fort Myers, FL 33916-7597
(239) 337-2116
Mon-Fri 8:30 am-4:30 pm

24 Hour Emergency
Telephone Number
CHEMTREC
1-800-424-9300

SECTION 1 PRODUCT IDENTIFICATION:

PRODUCT NAME: **DPD TOTAL CHLORINE REAGENT**

CATALOG NUMBERS:

HF scientific, inc.	10120	10315	10427	10448A	10506C	11908
	10303	10316	10442	10502	10506T	11915
	10304	10404	10443	10502C	10507	
	10309	10406	10444A	10503	10507T	
	10310	10425	10446A	10506	10520	

For products with lot numbers above 21000

USA BlueBook	34445	34446	34447	34448	34453	34454

CHEMICAL FAMILY: Not applicable

SYNONYMS: Not applicable

FORMULA:

Sodium Phosphate, Dibasic	CAS # 7758-79-4
Carboxylate Salt	CAS # Confidential
Potassium Iodide	CAS # 7681-11-0
Ethylenediaminetetraacetic Acid	CAS # 6381-92-6
DPD Salt.	CAS # Confidential

SECTION 2 HAZARDOUS INGREDIENTS

Hazardous Ingredient(s):	OSHA PEL	ACGIH TLV	Other Limits
	Recommended		
DPD* Salt		Not established	None
*(N,N-Diethyl-p-Phenylenediamine)			

SECTION 3 PHYSICAL DATA

BOILING POINT (F): Not applicable
SOLUBILITY IN WATER: Soluble
VAPOR PRESSURE (mm Hg): Not applicable
MELTING POINT: Not applicable
APPEARANCE AND ODOR: White to pale pink powder, no odor
VAPOR DENSITY (AIR=1): Not applicable
SPECIFIC GRAVITY (H₂O = 1): Not available
EVAPORATION RATE (Butyl Acetate = 1): Not applicable

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): Not flammable
FLAMMABLE LIMITS:
LEL: Not applicable UEL: Not applicable
EXTINGUISHING MEDIA: Water, dry chemical, alcohol foam, or carbon dioxide.
SPECIAL FIRE FIGHTING PROCEDURES: Suitable to cause of fire. Wear protective clothing and self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS: May emit toxic fumes

SECTION 5 HEALTH HAZARD EFFECTS AND FIRST AID

ROUTE(S) OF ENTRY: Inhalation? Yes. Skin? Yes. Ingestion? Yes.
HEALTH HAZARDS (Acute and Chronic): Moderately toxic. Rash, irritation

of eyes and respiratory tract.
CARCINOGENICITY: NTP? IARC Monographs? OSHA Regulated? Mutation and reproductive citations for potassium iodide (RTECS, 1982)
SIGNS AND SYMPTOMS OF EXPOSURE: Moderately toxic. Rash, irritation of eyes and respiratory tract. May be absorbed through skin and may be sensitizing to skin.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Allergy or sensitivity to salts of DPD.
EMERGENCY AND FIRST AID PROCEDURES:
Eye And Skin Exposure: Immediately flush eyes with water for 15 minutes. Call physician. Wash skin with soap and plenty of water.
Ingestion: Give large quantities of water or milk. Call physician immediately.
Inhalation: Remove to fresh air.

SECTION 6 REACTIVITY DATA

STABILITY: Stable under normal conditions of use and storage
CONDITIONS TO AVOID: Exposure to light, heat.
INCOMPATIBILITY (Materials to Avoid): Strong oxidizing agents
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Iodine, iodine compounds
HAZARDOUS POLYMERIZATION: Will not occur

SECTION 7 SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Scoop into a beaker and dissolve in water.
WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: Wash thoroughly after handling. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Use only with adequate ventilation. Store in a cool, dry, dark place.
OTHER PRECAUTIONS: None

SECTION 8 CONTROL MEASURES

RESPIRATORY PROTECTION: Not necessary in normal use.
VENTILATION SYSTEMS: General mechanical ventilation satisfactory in normal use.
SKIN PROTECTION: Wear rubber gloves
EYE PROTECTION: Wear safety glasses
OTHER PROTECTIVE EQUIPMENT: Lab coat, eye wash, safety shower
WORK/HYGIENIC PRACTICES: Wash well after handling. Avoid skin contact

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