

MATERIAL SAFETY DATA SHEET

HF scientific, inc.
3170 Metro Parkway
Fort Myers, FL 33916-7597
(239) 337-2116
Mon-Fri 8:00 am - 4:30 pm

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

SECTION 1 PRODUCT IDENTIFICATION

PRODUCT NAME: ALKALINITY A 1 Reagent
CATALOG NUMBER: 10012
CHEMICAL FAMILY: Solution
SYNONYMS: Glutaric acid in aqueous solution
Formula: Glutaric Acid <2% CAS# 110-94-1
Deionized Water >98% CAS# 7732-18-5

PRODUCT IDENTITY**SECTION 2 HAZARDOUS INGREDIENTS**

Hazardous Ingredient	OSHA PEL	ACGIH TLV	OTHER LIMITS Recommended
Glutaric Acid (< 2%) CAS# 110-94-1	N/A	5 ppm (TWA)	Not found

SECTION 3 PHYSICAL DATA

Boiling Point (F): Not Found
Solubility in Water: Miscible
Vapor Pressure (mm Hg): Not found
Melting Point: N/A
Appearance and Odor: Clear liquid.
Vapor Density (AIR=1): Not found
Specific Gravity: Not found
Percent Volatile By Volume: None
Evaporation Rate: Not found

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A
Flammable Limits:
LEL: N/A **UEL:** N/A
Fire Extinguishing Media: Any means suitable for extinguishing the surrounding fire.
Fire Fighting Procedures: Wear self contained breathing apparatus and protective clothing.
Unusual Fire and Explosive Hazards: None

SECTION 5 HEALTH EFFECTS AND FIRST AID

Route(s) Of Entry: Inhalation? Yes Skin? Yes Ingestion? Yes
Health Hazards (Acute And Chronic): Can be an eye or skin irritant.
Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?
Not Listed
Signs and Symptoms Of Exposure: Eye or skin irritation.
Medical Conditions Generally Aggravated By Exposure: Preexisting skin disorders, eye problems or respiratory problems.
EMERGENCY FIRST AID PROCEDURES:
Eyes: Flush thoroughly with water, consult a physician.
Skin: Wash with soap and water.
Ingestion: Induce vomiting. Call a physician immediately.
Inhalation: Move to fresh air. Get medical attention.

SECTION 6 REACTIVITY DATA

Stability: Stable
Conditions To Avoid: Do not freeze.
Incompatibilities: Strong oxidizers, strong alkalis, strong acids.

SECTION 7 SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released or Spilled: Isolate the spill. Absorb with vermiculite or other absorbent inert material. Place in chemical waste disposal container.

Waste Disposal Method: Dispose of in accordance with all applicable federal, state and local environmental regulations.

Precautions To Be Taken In Handling & Storage: Protect from physical damage. Best to avoid freezing.

Other Precautions:

SECTION 8 CONTROL MEASURES

Respiratory Protection: Use in well vented areas.

Ventilation Systems: Adequate in normal use.

Skin Protection: Rubber gloves recommended

Eye Protection: Splash goggles

Other Protective Equipment: Eye wash. Impervious clothing as necessary

Work/Hygienic Practices: Wash well after handling.

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Date: August 27, 2007

Revision: 1

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SECTION 1 PRODUCT IDENTIFICATION:

Product Name: ALKALINITY SOLUTION 2

Catalog Number: 10013

Chemical Family: not applicable

Synonyms: not applicable

Formula:

Bromocresol Green, sodium salt	CAS # 62625-32-5
Sodium Thiosulfate, Pentahydrate	CAS # 10102-17-7
Water	CAS # 7732-18-5

SECTION 2 HAZARDOUS INGREDIENTS:

None

SECTION 3 PHYSICAL DATA:

Boiling point : ~100° C

Solubility in water: miscible

Vapor pressure (mm #g): not determined

Melting Point: not determined

Appearance and odor: Dark green solution

Vapor density (air=1): not determined

Specific gravity: not determined

Percent volatile by vol: not determined

Evaporation rate: not determined

SECTION 4 FIRE AND EXPLOSION INFORMATION:

Flash point: not applicable

Flammable limits: not applicable

Fire: not applicable

Extinguishing media: suitable to cause of fire

Fire fighting procedures: suitable to cause of fire

Unusual fire and explosive hazards: not applicable

SECTION 5 HEALTH HAZARD DATA

Route(s) Of Entry: Inhalation? Yes. Skin? Yes. Ingestion? Yes.

Health Hazards (Chronic): none found

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?
Not listed

Threshold Limit Value (TLV): not determined

Signs And Symptoms Of Exposure: irritation to skin and eyes.

Medical Conditions Generally Aggravated By Exposure: none found

Emergency First Aid Procedures:

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.

Skin contact: Flush with plenty of water.

Ingestion: Immediately give large amounts of water. Then induce vomiting by sticking finger down throat. Never give anything by mouth to an unconscious person. Call a physician.

SECTION 6 REACTIVITY DATA

Stability: stable

Conditions To Avoid: not determined

Incompatibilities: not determined

Hazardous Decomposition Products: not determined

Hazardous Polymerization: will not occur

SECTION 7 SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled: Wipe down area with paper towels or mop. Rinse mop with tap water or discard towels in normal waste container. Solution may leave a green stain.

Waste Disposal Method: dispose of in accordance with local, state and federal regulations.

Precautions To Be Taken In Handling & Storage: Store tightly capped.

Other Precautions: none

SECTION 8 SPECIAL PROTECTION INFORMATION

Respiratory protection: not required in normal use.

Ventilation systems: general mechanical ventilation satisfactory in normal use.

Skin protection: rubber gloves.

Eye protection: safety goggles

Other protective equipment: none.

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DATE: May 26, 2005

REVISION: 9

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SECTION 1 PRODUCT IDENTIFICATION:

PRODUCT NAME: DPD FREE CHLORINE REAGENT

CATALOG NUMBERS:

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

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
<u>Ingredient(s):</u>			<u>Recommended</u>
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/HYGIENIC PRACTICES: Wash well after handling. Avoid skin contact.

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SECTION 1 PRODUCT IDENTIFICATION:

Product Name: PHENOL RED SOLUTION

Catalog Number: 10011

Chemical Family: not applicable

Synonyms: not applicable

Formula:

Phenol Red, sodium salt	CAS # 34487-61-1
Sodium Thiosulfate	CAS # 10102-17-7
Water	CAS # 7732-18-5

SECTION 2 HAZARDOUS INGREDIENTS:

None

SECTION 3 PHYSICAL DATA:

Boiling point : ~100° C

Solubility in water: miscible

Vapor pressure (mm #g): not determined

Melting Point: not determined

Appearance and odor: Dark red solution

Vapor density (air=1): not determined

Specific gravity: not determined

Percent volatile by vol: not determined

Evaporation rate: not determined

SECTION 4 FIRE AND EXPLOSION INFORMATION:

Flash point: not applicable

Flammable limits: not applicable

Fire: not applicable

Extinguishing media: suitable to cause of fire

Fire fighting procedures: suitable to cause of fire

Unusual fire and explosive hazards: not applicable

SECTION 5 HEALTH HAZARD DATA

Route(s) Of Entry: Inhalation? Yes. Skin? Yes. Ingestion? Yes.

Health Hazards (Chronic): none found

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?
Not listed

Threshold Limit Value (TLV): not determined

Signs And Symptoms Of Exposure: irritation to skin and eyes.

Medical Conditions Generally Aggravated By Exposure: none found

Emergency First Aid Procedures:

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.

Skin contact: Flush with plenty of water.

Ingestion: Immediately give large amounts of water. Then induce vomiting by sticking finger down throat. Never give anything by mouth to an unconscious person. Call a physician.

SECTION 6 REACTIVITY DATA

Stability: stable

Conditions To Avoid: not determined

Incompatibilities: not determined

Hazardous Decomposition Products: not determined

Hazardous Polymerization: will not occur

SECTION 7 SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled: cover with soda ash. Scoop up in a beaker of water. Dilute and flush down the drain with excess water.

Waste Disposal Method: dispose of in accordance with local, state and federal regulations.

Precautions To Be Taken In Handling & Storage: Store tightly capped.

Other Precautions: none

SECTION 8 SPECIAL PROTECTION INFORMATION

Respiratory protection: not required in normal use.

Ventilation systems: general mechanical ventilation satisfactory in normal use.

Skin protection: rubber gloves, lab coat

Eye protection: safety goggles

Other protective equipment: none.

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SECTION 1 PRODUCT IDENTIFICATION**PRODUCT NAME:** Potassium Iodide Solution**CATALOG NUMBER:** 10015**CHEMICAL NAME:** POTASSIUM IODIDE (IN AQUEOUS SOLUTION)**SYNONYMS:** NONE**FORMULA:** KI (in aqueous solution)
Sodium Carbonate**SECTION 2 HAZARDOUS INGREDIENTS**

Hazardous Ingredient	OSHA PEL	ACGIH TLV	OTHER LIMITS Recommended
Potassium Iodide (10%)			LD50 1862 mg/kg
CAS# 7681-11-0			

SECTION 3 PHYSICAL DATA**Boiling Point:** Approx. 100°C (212°F)**Solubility In Water:** Miscible**Vapor Pressure (mm Hg):** No information found**Melting Point:** -1°C (31°F)**Appearance and Odor:** Clear, colorless solution, odorless**Vapor Density (AIR=1):** No information found**Specific Gravity (H₂O = 1):** No information found**Percent Volatile By Volume:** No information found.**Evaporation Rate:** No information found**SECTION 4 FIRE AND EXPLOSION HAZARD DATA****Flash Point:** N/A**Flammable Limits:****LEL:** N/A**UEL:** N/A**Fire Extinguishing Media:** Any means suitable for extinguishing the surrounding fire.**Fire Fighting Procedures:** Wear self contained breathing apparatus and protective clothing.**Unusual Fire and Explosive Hazards:** None**SECTION 5 HEALTH EFFECTS AND FIRST AID****Route(s) Of Entry:** Inhalation? Yes. Skin? Yes. Ingestion? Yes.**Health Hazards (Acute and Chronic):** Can irritate eyes, skin and mucous membranes. If swallowed, solution may cause gastrointestinal upset.**Carcinogenicity:** NTP? N/A IARC Monographs? N/A OSHA Regulated? N/A**Signs and Symptoms Of Exposure:** Chronic exposure may cause thyroid adenoma, goiter, iodism, skin rashes headaches, running nose, weakness, anemic and general depression.**Medical Conditions Generally Aggravated By Exposure:** No information found. GET MEDICAL ASSISTANCE FOR ALL CASES OF OVEREXPOSURE!**EMERGENCY FIRST AID PROCEDURES:****Eyes:** Flush with water for at least 15 minutes; get immediate medical assistance.**Skin:** Remove contaminated clothing and wash with soap and water. Flush with water 15 to 20 minutes until chemical is gone.**Ingestion:** Give several glasses of water to dilute. If large amounts were swallowed, get medical advice.**Inhalation:** Remove to fresh air. Get medical attention for any breathing difficulty.**SECTION 6 REACTIVITY DATA****Stability:** Stable under ordinary conditions of use and storage. Solution can discolor in direct sunlight.**Conditions To Avoid:** Protect from direct sunlight and freezing.**Incompatibilities:** Potassium iodide reacts violently or explosively with many fluorides, perchlorates, alkali metals, strong oxidants, diazonium salts.**Hazardous Decomposition Products:** Fumes of iodine and potassium oxide may be released when heated to decomposition.**Hazardous Polymerization:** Not known to occur.**SECTION 7 SAFE HANDLING AND USE****Steps To Be Taken In Case Material Is Released or Spilled:** Ventilate area if the leak or spill. Absorb with sand, vermiculite or other dry absorbent. Dispose of properly.**Waste Disposal Method:** Dispose of in accordance with all applicable federal, state and local environmental regulations.**Precautions To Be Taken In Handling & Storage:** Keep container tightly closed. Store in cool, dry, well ventilated area away from sunlight. Keep away from heat, acids, oxidizers. Wash thoroughly after handling.**Other Precautions:** Isolate from incompatible substances.**SECTION 8 CONTROL MEASURES****Respiratory Protection:** Not expected to require personal respirator usage.**Ventilation Systems:** Not expected to require any special ventilation.**Skin Protection:** Gloves and lab coat, apron or coveralls.**Eye Protection:** Use chemical safety goggles. Contact lenses should not be worn when working with this material. Maintain eyewash fountain and quick-drench facilities in work area.**Other Protective Equipment:** Maintain eye wash fountain and quick-drench facilities in work area.**Work/Hygienic Practices:** Wash well after handling. Avoid breathing vapors.

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