



# Material Safety Data Sheet

## Section 1. Product and Company Identification

<b>Product Name</b>	Histochemical PAS Reaction Set	<b>Product Code</b>	64945
<b>Manufacturer</b>	EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.	<b>Effective Date</b>	11/4/2004
		<b>Print Date</b>	12/22/2004

### For More Information Call

856-423-6300 Technical Service  
Monday-Friday: 8:00 AM - 5:00 PM

### In Case of Emergency Call

800-424-9300 CHEMTREC (USA)  
613-996-6666 CANUTEC (Canada)  
24 Hours/Day: 7 Days/Week

<b>Synonym</b>	Schiff Reagent Periodic Acid Solution Light Green SF Yellowish Stain Sodium Carbonate Solution Disposibel Tubes, 20/Set Forceps, 1/set	None. None. None. None. None. Not available. Not available.
<b>Material Uses</b>	Schiff Reagent Periodic Acid Solution Light Green SF Yellowish Stain Sodium Carbonate Solution Disposibel Tubes, 20/Set Forceps, 1/set	Laboratory Reagent Laboratory Reagent Laboratory Reagent Laboratory Reagent Not available. Not available.
<b>Chemical Family</b>	Schiff Reagent Periodic Acid Solution Light Green SF Yellowish Stain Sodium Carbonate Solution Disposibel Tubes, 20/Set Forceps, 1/set	Dye Solution Solution. Dye Solution Solution. Not available. Not available.

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**Section 2. Composition and Information on Ingredients**

Product name / Reagent.	Component ; CAS # ; % by Weight
Schiff Reagent	Water; 7732-18-5; 90.9% Charcoal; 7440-44-0; 0.4% Potassium Metabisulfite; 16731-55-8; 0.455% Basic Fuchsin; 569-61-9; 0.455% Hydrochloric acid; 7647-01-0; 8.65%
Periodic Acid Solution	Water; 7732-18-5; 99.5% Periodic Acid; 10450-60-9; 0.5%
Light Green SF Yellowish Stain	Light Green SF, Yellowish; 5141-20-8; 0.03% Acetic acid.; 64-19-7; 0.3% Thymol; 89-83-8; 0.01%
Sodium Carbonate Solution	Water; 7732-18-5; 99% Water; 7732-18-5; 99.99% Sodium Carbonate ; 497-19-8; 0.95%
Disposibel Tubes, 20/Set	Disposibel Tubes, 20/Set; 100%
Forceps, 1/set	Forceps, 1/set; 100%

**Section 3. Hazards Identification**

Physical State and Appearance		
Schiff Reagent	Liquid.	
Periodic Acid Solution	Liquid.	
Light Green SF Yellowish Stain	Liquid.	
Sodium Carbonate Solution	Liquid.	
Disposibel Tubes, 20/Set	Solid.	
Forceps, 1/set	Solid.	
<b>Emergency Overview</b>	Schiff Reagent	CANCER HAZARD CONTAINS MATERIAL WHICH CAN CAUSE CANCER CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: LUNGS, RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA. MAY BE HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
	Periodic Acid Solution	CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED.
	Light Green SF Yellowish Stain	CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA, TEETH.
	Sodium Carbonate Solution	MAY CAUSE EYE IRRITATION.
	Disposibel Tubes, 20/Set	Not applicable.

Forceps, 1/set	Not applicable.
Schiff Reagent	WARNING: This product contains a chemical(s) known to the State of California to cause cancer.
Periodic Acid Solution	Not listed.California prop. 65
Light Green SF Yellowish Stain	Not listed.California prop. 65
Sodium Carbonate Solution	Not listed.California prop. 65
Disposibel Tubes, 20/Set	Not applicable.Article.
Forceps, 1/set	Not applicable.

**Routes of Entry**

Schiff Reagent	Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Periodic Acid Solution	Dermal contact. Eye contact. Inhalation. Ingestion.
Light Green SF Yellowish Stain	Dermal contact. Eye contact. Inhalation. Ingestion.
Sodium Carbonate Solution	Eye contact. Inhalation. Ingestion.
Disposibel Tubes, 20/Set	Not applicable.
Forceps, 1/set	Not applicable.

**Potential Acute Health Effects**

<i>Eyes</i>	Schiff Reagent	May be hazardous in case of eye contact (irritant).
	Periodic Acid Solution	Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	May be hazardous in case of eye contact (irritant).
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<i>Skin</i>	Schiff Reagent	May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
	Periodic Acid Solution	Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.

<i>Inhalation</i>	Schiff Reagent	May be hazardous in case of inhalation (lung irritant).
	Periodic Acid Solution	Hazardous in case of inhalation (lung irritant). May be hazardous in case of inhalation.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<i>Ingestion</i>	Schiff Reagent	May be hazardous in case of ingestion.
	Periodic Acid Solution	May be hazardous in case of ingestion.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.

**Potential Chronic Health Effects**

<i>Carcinogenic Effects</i>	Schiff Reagent	Classified A1 (Confirmed for human.) by ACGIH [Basic Fuchsin]. Classified 2B (Possible for human.) by IARC [Basic Fuchsin].
	Periodic Acid Solution	This material is not known to cause cancer in animals or humans.
	Light Green SF Yellowish Stain	This material is not known to cause cancer in animals or humans.
	Sodium Carbonate Solution	This material is not known to cause cancer in animals or humans.
	Disposibel Tubes, 20/Set	This material is not known to cause cancer in animals or humans.
	Forceps, 1/set	This material is not known to cause cancer in animals or humans.
	Additional information	See Toxicological Information (section 11)

**Medical Conditions Aggravated by Overexposure:**

Schiff Reagent	Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Periodic Acid Solution	Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.
Light Green SF	Repeated or prolonged contact with spray mist may

Yellowish Stain	produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.
Sodium Carbonate Solution	Repeated or prolonged exposure is not known to aggravate medical condition.
Disposibel Tubes, 20/Set	Repeated or prolonged exposure is not known to aggravate medical condition.
Forceps, 1/set	Repeated or prolonged exposure is not known to aggravate medical condition.

#### Section 4. First Aid Measures

##### Eye Contact

Schiff Reagent	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Periodic Acid Solution	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Light Green SF Yellowish Stain	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Sodium Carbonate Solution	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Disposibel Tubes, 20/Set	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Forceps, 1/set	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

##### Skin Contact

Schiff Reagent	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Periodic Acid Solution	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Light Green SF Yellowish Stain	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing

		contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
	Sodium Carbonate Solution	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.
	Disposibel Tubes, 20/Set	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
	Forceps, 1/set	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Inhalation**

	Schiff Reagent	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
	Periodic Acid Solution	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
	Light Green SF Yellowish Stain	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
	Sodium Carbonate Solution	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
	Disposibel Tubes, 20/Set	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
	Forceps, 1/set	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion**

	Schiff Reagent	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
	Periodic Acid Solution	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
	Light Green SF Yellowish Stain	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or

Sodium Carbonate Solution	waistband. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Disposibel Tubes, 20/Set	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Forceps, 1/set	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

### Section 5. Fire Fighting Measures

#### Flammability of the Product

Schiff Reagent	Non-flammable.
Periodic Acid Solution	Non-flammable.
Light Green SF Yellowish Stain	Non-flammable.
Sodium Carbonate Solution	Non-flammable.
Disposibel Tubes, 20/Set	May be combustible at high temperature.
Forceps, 1/set	May be combustible at high temperature.

#### Auto-ignition Temperature

Schiff Reagent	Not applicable.
Periodic Acid Solution	Not applicable.
Light Green SF Yellowish Stain	Not applicable.
Sodium Carbonate Solution	Not applicable.
Disposibel Tubes, 20/Set	Not available.
Forceps, 1/set	Not available.

#### Flash Points

Schiff Reagent	Not applicable.
Periodic Acid Solution	Not applicable.
Light Green SF Yellowish Stain	Not applicable.
Sodium Carbonate Solution	Not applicable.
Disposibel Tubes, 20/Set	Not available.
Forceps, 1/set	Not available.

<b>Flammable Limits</b>	Schiff Reagent	Not applicable.
	Periodic Acid Solution	Not applicable.
	Light Green SF Yellowish Stain	Not applicable.
	Sodium Carbonate Solution	Not applicable.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
	<b>Products of Combustion</b>	Schiff Reagent
Periodic Acid Solution		Not applicable.
Light Green SF Yellowish Stain		Not applicable.
Sodium Carbonate Solution		Not applicable.
Disposibel Tubes, 20/Set		Not available.
Forceps, 1/set		Not available.
<b>Fire Hazards in Presence of Various Substances</b>		Schiff Reagent
	Periodic Acid Solution	Not applicable.
	Light Green SF Yellowish Stain	Not applicable.
	Sodium Carbonate Solution	Not applicable.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
	<b>Explosion Hazards in Presence of Various Substances</b>	Schiff Reagent
Periodic Acid Solution		<b>Risks of explosion of the product in presence of static discharge: No.</b> <b>Risks of explosion of the product in presence of mechanical impact: No.</b>
Light Green SF Yellowish Stain		<b>Risks of explosion of the product in presence of static discharge: No.</b> <b>Risks of explosion of the product in presence of mechanical impact: No.</b>
Sodium Carbonate Solution		<b>Risks of explosion of the product in presence of static discharge: No.</b> <b>Risks of explosion of the product in presence of mechanical impact: No.</b>
Disposibel Tubes, 20/Set		<b>Risks of explosion of the product in presence of static discharge: No.</b> <b>Risks of explosion of the product in presence of mechanical impact: No.</b>
Forceps, 1/set		<b>Risks of explosion of the product in presence of static discharge: No.</b>



Risks of explosion of the product in presence of mechanical impact: No.

<b>Fire Fighting Media and Instructions</b>	Schiff Reagent	Not applicable.
	Periodic Acid Solution	Not applicable.
	Light Green SF Yellowish Stain	Not applicable.
	Sodium Carbonate Solution	Not applicable.
	Disposibel Tubes, 20/Set	Not applicable.
	Forceps, 1/set	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
<b>Protective Clothing (Fire)</b>	Schiff Reagent	Not applicable.
	Periodic Acid Solution	Not applicable.
	Light Green SF Yellowish Stain	Not applicable.
	Sodium Carbonate Solution	Not applicable.
	Disposibel Tubes, 20/Set	Not applicable.
	Forceps, 1/set	Not applicable.
<b>Special Remarks on Fire Hazards</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<b>Special Remarks on Explosion Hazards</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.

**Section 6. Accidental Release Measures****Small Spill and Leak**

Schiff Reagent	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Periodic Acid Solution	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Light Green SF Yellowish Stain	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Sodium Carbonate Solution	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Disposibel Tubes, 20/Set	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Forceps, 1/set	Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill and Leak**

Schiff Reagent	Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
Periodic Acid Solution	Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.
Light Green SF Yellowish Stain	Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
Sodium Carbonate Solution	Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated

	surface and allow to evacuate through the sanitary system.
Disposibel Tubes, 20/Set	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.
Forceps, 1/set	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

**Spill Kit Information**

Schiff Reagent  
 Periodic Acid Solution  
 Light Green SF  
 Yellowish Stain  
 Sodium Carbonate  
 Solution  
 Disposibel Tubes,  
 20/Set  
 Forceps, 1/set

**Section 7. Handling and Storage****Handling**

Schiff Reagent	Avoid contact with eyes, skin and clothing. Do not ingest. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
Periodic Acid Solution	Avoid contact with eyes, skin and clothing. Do not ingest. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
Light Green SF Yellowish Stain	Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
Sodium Carbonate Solution	Avoid breathing vapors or spray mists. Do not get in eyes. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
Disposibel Tubes, 20/Set	Avoid breathing dust.
Forceps, 1/set	Avoid breathing dust.

**Storage**

Schiff Reagent	Keep container tightly closed. Keep container in a cool, well-ventilated area.
Periodic Acid Solution	Keep container tightly closed. Keep container in a cool, well-ventilated area.
Light Green SF Yellowish Stain	Keep container tightly closed. Keep container in a cool, well-ventilated area.
Sodium Carbonate Solution	Keep container tightly closed. Keep container in a cool, well-ventilated area.
Disposibel Tubes, 20/Set	Keep container tightly closed. Keep container in a cool, well-ventilated area.
Forceps, 1/set	

## Section 8. Exposure Controls/Personal Protection

## Engineering Controls

Schiff Reagent	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Periodic Acid Solution	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Light Green SF Yellowish Stain	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.
Sodium Carbonate Solution	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.
Disposibel Tubes, 20/Set	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Forceps, 1/set	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

## Personal Protection

<i>Eyes</i>	Schiff Reagent	Face shield.
	Periodic Acid Solution	Face shield.
	Light Green SF Yellowish Stain	Face shield.
	Sodium Carbonate Solution	Splash goggles.
	Disposibel Tubes, 20/Set	Safety glasses.
	Forceps, 1/set	Safety glasses.
<i>Body</i>	Schiff Reagent	Full suit.
	Periodic Acid Solution	Full suit.
	Light Green SF Yellowish Stain	Full suit.
	Sodium Carbonate Solution	Lab coat.
	Disposibel Tubes, 20/Set	Lab coat.

Forceps, 1/set      Lab coat.

**Respiratory**

Schiff Reagent      Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Periodic Acid Solution      Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Light Green SF Yellowish Stain      Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Sodium Carbonate Solution      Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Disposibel Tubes, 20/Set      Not applicable.

Forceps, 1/set      Not applicable.

**Hands**

Schiff Reagent      Gloves.

Periodic Acid Solution      Gloves.

Light Green SF Yellowish Stain      Gloves.

Sodium Carbonate Solution      Gloves.

Disposibel Tubes, 20/Set      Not applicable.

Forceps, 1/set      Not applicable.

**Feet**

Schiff Reagent      Boots.

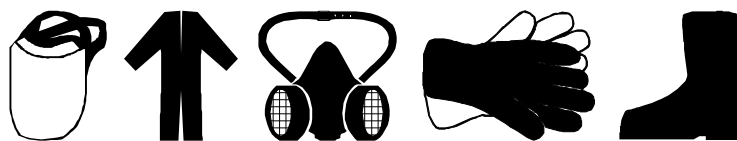
Periodic Acid Solution      Boots.

Light Green SF Yellowish Stain      Boots.

Sodium Carbonate Solution      Not applicable.

Disposibel Tubes, 20/Set      Not applicable.

Forceps, 1/set      Not applicable.

**Protective Clothing (Pictograms)****Personal Protection in Case of a Large Spill**

Schiff Reagent      Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Periodic Acid Solution      Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Light Green SF Yellowish Stain	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Sodium Carbonate Solution	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Disposibel Tubes, 20/Set	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Forceps, 1/set	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Product Name****Exposure Limits**

Water	Not available.
Charcoal	<b>Tyterveyslaitos (Finland, 1998).</b> TWA: 5 mg/m <sup>3</sup> 8 hour(s). <b>National Authority for Occupational Safety/Health (Ireland, 1999).</b> OEL: 10 mg/m <sup>3</sup> 8 hour(s). <b>EH40-OES (United Kingdom (UK), 1997).</b> TWA: 10 mg/m <sup>3</sup> 8 hour(s).
Potassium Metabisulfite	Not available.
Basic Fuchsin	Not available.
Hydrochloric acid	<b>BMWA_MAK (Austria, 2001).</b> Spitzenbegrenzung: 16 mg/m <sup>3</sup> 8 times per shift, 5 minute(s). Spitzenbegrenzung: 10 ppm 8 times per shift, 5 minute(s). TWA: 8 mg/m <sup>3</sup> 8 hour(s). TWA: 5 ppm 8 hour(s). <b>NOHSC (Australia, 2002). Notes: Documentation for the substances with this footnote can be found in the 5th Edition of the ACGIH documentation of the threshold limit values and biological exposure indices.<sup>1</sup> For all other substances with 'H' in Column 7 the documentation can be found in the 6th Edition of the ACGIH documentation of the threshold limit values and biological exposure indices.<sup>2</sup></b> AMP: 7.5 mg/m <sup>3</sup> 15 minute(s). AMP: 5 ppm 15 minute(s). <b>Lijst Grenswaarden (Belgium, 2002).</b> VCD: 15 mg/m <sup>3</sup> 15 minute(s). VCD: 10 ppm 15 minute(s). VL: 8 mg/m <sup>3</sup> 8 hour(s). VL: 5 ppm 8 hour(s). <b>SUVA (Switzerland, 2001).</b> Kurzzeitsgrenzwerte: 7.5 mg/m <sup>3</sup> 15 minute(s). Kurzzeitsgrenzwerte: 5 ppm 15 minute(s). MAK: 7.5 mg/m <sup>3</sup> 8 hour(s). MAK: 5 ppm 8 hour(s). <b>178/2001 (CZ, 2001).</b> STEL: 15 mg/m <sup>3</sup> 10 minute(s). STEL: 10.185 ppm 10 minute(s). TWA: 8 mg/m <sup>3</sup> 8 hour(s). TWA: 5.432 ppm 8 hour(s). <b>BAUA (Germany, 1997).</b> Spitzenbegrenzung: 8 mg/m <sup>3</sup> TWA: 8 mg/m <sup>3</sup> 8 hour(s).

**MAK-Werte Liste (Germany, 2000).**

Spitzenbegrenzung: 7.6 mg/m<sup>3</sup> 15 minute(s).

Spitzenbegrenzung: 5 ML/M3 15 minute(s).

TWA: 7.6 mg/m<sup>3</sup> 8 hour(s).

TWA: 5 ML/M3 8 hour(s).

**TRGS900 MAK (Germany, 2002).**

Spitzenbegrenzung: 8 mg/m<sup>3</sup>

TWA: 8 mg/m<sup>3</sup> 8 hour(s).

**Arbejdstilsynet (Denmark, 2000).**

Loftværdi: 7 mg/m<sup>3</sup>

Loftværdi: 5 ppm

GV: 7 mg/m<sup>3</sup> 8 hour(s).

GV: 5 ppm 8 hour(s).

**DK-Arbejdstilsynet (Denmark, 1996).**

Loftværdi: 7 mg/m<sup>3</sup>

Loftværdi: 5 ppm

GV: 7 mg/m<sup>3</sup> 8 hour(s).

GV: 5 ppm 8 hour(s).

**INSHT (Spain, 2002).**

STEL: 15 mg/m<sup>3</sup> 15 minute(s).

STEL: 10 ppm 15 minute(s).

TWA: 7.6 mg/m<sup>3</sup> 8 hour(s).

TWA: 5 ppm 8 hour(s).

**80/1107/EEC (Europe, 1996).**

STEL: 10 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 5 mg/m<sup>3</sup> 8 hour(s).

TWA: 8 ppm 8 hour(s).

**EU OEL (Europe, 2000). Notes: Indicative**

STEL: 15 mg/m<sup>3</sup> 15 minute(s).

STEL: 10 ppm 15 minute(s).

TWA: 8 mg/m<sup>3</sup> 8 hour(s).

TWA: 5 ppm 8 hour(s).

**Työterveyslaitos (Finland, 2002).**

STEL: 7.6 mg/m<sup>3</sup> 15 minute(s).

STEL: 5 ppm 15 minute(s).

**INRS (France, 1999). Notes: Advisory**

VLE: 7.5 mg/m<sup>3</sup> 15 minute(s).

VLE: 5 ppm 15 minute(s).

**NAOSH (Ireland, 2002).**

STEL: 14 mg/m<sup>3</sup> 15 minute(s).

STEL: 10 ppm 15 minute(s).

OEL: 7 mg/m<sup>3</sup> 8 hour(s).

OEL: 5 ppm 8 hour(s).

**JSOH (Japan, 1996).**

CEIL: 7.5 mg/m<sup>3</sup>

CEIL: 5 ppm

**Ministry of Labor (KR, 1997).**

CEIL: 7 mg/m<sup>3</sup>

CEIL: 5 ppm

**Nationale MAC-lijst (Netherlands, 2003). Notes: Administrative**

TGG 15 min: 15 mg/m<sup>3</sup> 15 minute(s).

TGG 15 min: 10 ppm 15 minute(s).

TGG 8 uur: 8 mg/m<sup>3</sup> 8 hour(s).

TGG 8 uur: 5 ppm 8 hour(s).

**Arbejdstilsynet (Norway, 2001).**

Takverdi: 7 mg/m<sup>3</sup>

Takverdi: 5 ppm

AN: 7 mg/m<sup>3</sup> 8 hour(s).

AN: 5 ppm 8 hour(s).

**NZ OSH (NZ, 1994).**

CEIL: 7.5 mg/m<sup>3</sup>

CEIL: 5 ppm

**AFS (Sweden, 2000).**TGV: 8 mg/m<sup>3</sup>

TGV: 5 ppm

KTV: 8 mg/m<sup>3</sup> 15 minute(s).

KTV: 5 ppm 15 minute(s).

**EH40-OES (United Kingdom (UK), 2002).**STEL: 8 mg/m<sup>3</sup> 15 minute(s).

STEL: 5 ppm 15 minute(s).

TWA: 2 mg/m<sup>3</sup> 8 hour(s).

TWA: 1 ppm 8 hour(s).

**ACGIH (United States, 2003).**

CEIL: 2 ppm

**NIOSH REL (United States, 2001).**CEIL: 7 mg/m<sup>3</sup>

CEIL: 5 ppm

**OSHA Final Rule (United States, 1989).**CEIL: 7 mg/m<sup>3</sup>

CEIL: 5 ppm

**OSHA PEL (United States, 1974).**CEIL: 7 mg/m<sup>3</sup>

CEIL: 5 ppm

**OSHA PEL 1989 (United States, 1989).**CEIL: 7 mg/m<sup>3</sup>

CEIL: 5 ppm

Not available.

Not available.

**80/1107/EEC (Europe, 1998).**TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**INRS (France, 1999).**VLE: 25 mg/m<sup>3</sup> 15 minute(s).

VLE: 10 ppm 15 minute(s).

**NIOSH REL (United States, 2000).**STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 10 hour(s).

TWA: 10 ppm 10 hour(s).

**OSHA Final Rule (United States, 1989).**TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**AUVA (Austria, 1995).**Spitzenbegrenzung: 50 mg/m<sup>3</sup> 8 times per shift, 5 minute(s).

Spitzenbegrenzung: 20 ML/M3 8 times per shift, 5 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ML/M3 8 hour(s).

**NOHSC (Australia, 1995).**STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**Lijst Grenswaarden (Belgium, 1998).**VCD: 38 mg/m<sup>3</sup> 15 minute(s).

VCD: 15 ppm 15 minute(s).

VL: 25 mg/m<sup>3</sup> 8 hour(s).

VL: 10 ppm 8 hour(s).

**SUVA (Switzerland, 1997).**Momentanwert: 50 mg/m<sup>3</sup> 8 times per shift, 5 minute(s).

Momentanwert: 20 ML/M3 8 times per shift, 5 minute(s).

MAK: 25 mg/m<sup>3</sup> 8 times per shift, 5 minute(s).

MAK: 10 ML/M3 8 times per shift, 5 minute(s).

**Ministry of Health (CL, 1992).**CEIL: 37 mg/m<sup>3</sup>TWA: 20 mg/m<sup>3</sup> 8 hour(s).

Periodic Acid  
Light Green SF, Yellowish  
Acetic acid.



TWA: 8 ppm 8 hour(s).

**MAK-Werte Liste (Germany, 1998).**

Spitzenbegrenzung: 50 mg/m<sup>3</sup> 8 times per shift, 5 minute(s).

Spitzenbegrenzung: 20 ML/M3 8 times per shift, 5 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ML/M3 8 hour(s).

**TRGS900 (Germany, 1999).**

Spitzenbegrenzung: 25 mg/m<sup>3</sup>

Spitzenbegrenzung: 10 ML/M3

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ML/M3 8 hour(s).

**Arbejdstilsynet (Denmark, 1996).**

GV: 25 mg/m<sup>3</sup> 8 hour(s).

GV: 10 ppm 8 hour(s).

**Tyterveyslaitos (Finland, 1998).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**EH40-OES (United Kingdom (UK), 2000).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**NAOSH (Ireland, 1999).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

OEL: 25 mg/m<sup>3</sup> 8 hour(s).

OEL: 10 ppm 8 hour(s).

**JSOH (Japan, 1996).**

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**Ministry of Labour (KR, 1997).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**Secretary of Work and Social security (MX, 1994).**

CCT: 37 mg/m<sup>3</sup> 15 minute(s).

CCT: 15 ppm 15 minute(s).

CPT: 25 mg/m<sup>3</sup> 8 hour(s).

CPT: 10 ppm 8 hour(s).

**Nationale MAC-lijst (Netherlands, 2000).**

TGG 8 uur: 25 mg/m<sup>3</sup> 8 hour(s).

TGG 8 uur: 10 ppm 8 hour(s).

**Arbejdstilsynet (Norway, 1996).**

AN: 25 mg/m<sup>3</sup> 8 hour(s).

AN: 10 ppm 8 hour(s).

**NZ OSH (NZ, 1994).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**AFS (Sweden, 1996).**

TGV: 25 mg/m<sup>3</sup>

TGV: 10 ppm

NGV: 13 mg/m<sup>3</sup> 8 hour(s).

NGV: 5 ppm 8 hour(s).

**ACGIH TLV (United States, 2000).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

Thymol	Not available.
Sodium Carbonate	Not available.
Disposibel Tubes, 20/Set	Not available.
Forceps, 1/set	Not available.

### Section 9. Physical and Chemical Properties

<b>Odor</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF	Not available.
	Yellowish Stain	
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<b>Color</b>	Schiff Reagent	Dark Red
	Periodic Acid Solution	Not available.
	Light Green SF	Not available.
	Yellowish Stain	
	Sodium Carbonate Solution	Clear. Colorless.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<b>Physical State and Appearance</b>	Schiff Reagent	Liquid.
	Periodic Acid Solution	Liquid.
	Light Green SF	Liquid.
	Yellowish Stain	
	Sodium Carbonate Solution	Liquid.
	Disposibel Tubes, 20/Set	Solid.
	Forceps, 1/set	Solid.
<b>Molecular Weight</b>	Schiff Reagent	Not applicable.
	Periodic Acid Solution	Not applicable.
	Light Green SF	Not applicable.
	Yellowish Stain	
	Sodium Carbonate Solution	Not applicable.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<b>Molecular Formula</b>	Schiff Reagent	Not applicable.
	Periodic Acid Solution	Not applicable.
	Light Green SF	Not applicable.
	Yellowish Stain	
	Sodium Carbonate Solution	Not applicable.
	Disposibel Tubes, 20/Set	Not available.

Forceps, 1/set Not available.

**pH**

Schiff Reagent Not available.  
 Periodic Acid Solution Not available.  
 Light Green SF Yellowish Stain Not available.  
 Sodium Carbonate Solution Not available.  
 Disposibel Tubes, 20/Set Not available.  
 Forceps, 1/set Not available.

**Boiling/Condensation Point**

Schiff Reagent The lowest known value is 99.9°C (211.8°F) (Water).  
 Weighted average: 100.78°C (213.4°F)  
 Periodic Acid Solution The lowest known value is 99.9°C (211.8°F) (Water).  
 Light Green SF Yellowish Stain The lowest known value is 99.9°C (211.8°F) (Water).  
 Sodium Carbonate Solution 100°C (212°F)  
 Disposibel Tubes, 20/Set Not available.  
 Forceps, 1/set Not available.

**Melting/Freezing Point**

Schiff Reagent May start to solidify at -0.1°C (31.8°F) based on data for: Water. Weighted average: -6.52°C (20.3°F)  
 Periodic Acid Solution May start to solidify at -0.1°C (31.8°F) based on data for: Water.  
 Light Green SF Yellowish Stain May start to solidify at -0.1°C (31.8°F) based on data for: Water.  
 Sodium Carbonate Solution 0°C (32°F)  
 Disposibel Tubes, 20/Set Not available.  
 Forceps, 1/set Not available.

**Critical Temperature**

Schiff Reagent The lowest known value is 51.5°C (124.7°F) (Hydrochloric acid).  
 Periodic Acid Solution Not available.  
 Light Green SF Yellowish Stain Not available.  
 Sodium Carbonate Solution Not available.  
 Disposibel Tubes, 20/Set Not available.  
 Forceps, 1/set Not available.

**Specific Gravity**

Schiff Reagent The only known value is 1.2 (Water = 1) (Hydrochloric acid).  
 Periodic Acid Solution Not available.  
 Light Green SF Yellowish Stain Not available.  
 Sodium Carbonate Solution 1 (Water = 1)

Disposibel Tubes,  
20/Set  
Forceps, 1/set

Not available.  
Not available.

**Vapor Pressure**

Schiff Reagent  
Periodic Acid Solution  
Light Green SF  
Yellowish Stain  
Sodium Carbonate  
Solution  
Disposibel Tubes,  
20/Set  
Forceps, 1/set

The highest known value is 21.3 kPa (160 mmHg) (@ 20°C) (Hydrochloric acid).  
Not available.  
Not available.  
Not available.  
Not available.  
Not available.  
Not available.

**Vapor Density**

Schiff Reagent  
Periodic Acid Solution  
Light Green SF  
Yellowish Stain  
Sodium Carbonate  
Solution  
Disposibel Tubes,  
20/Set  
Forceps, 1/set

The highest known value is >1 (Air = 1) (Hydrochloric acid).  
Not available.  
Not available.  
Not available.  
Not available.  
Not available.  
Not available.

**Volatility**

Schiff Reagent  
Periodic Acid Solution  
Light Green SF  
Yellowish Stain  
Sodium Carbonate  
Solution  
Disposibel Tubes,  
20/Set  
Forceps, 1/set

Not available.  
Not available.  
Not available.  
Not available.  
Not available.  
Not available.  
Not available.

**Odor Threshold**

Schiff Reagent  
Periodic Acid Solution  
Light Green SF  
Yellowish Stain  
Sodium Carbonate  
Solution  
Disposibel Tubes,  
20/Set  
Forceps, 1/set

Not available.  
Not available.  
Not available.  
Not available.  
Not available.  
Not available.  
Not available.

**Evaporation Rate**

Schiff Reagent  
Periodic Acid Solution  
Light Green SF  
Yellowish Stain  
Sodium Carbonate  
Solution  
Disposibel Tubes,

0.36 (Water) compared to(n-Butyl Acetate =1)  
0.36 (Water) compared to(n-Butyl Acetate =1)  
0.36 (Water) compared to(n-Butyl Acetate =1)  
0.36 (Water) compared to(n-Butyl Acetate =1)  
0.36 (Water) compared to(n-Butyl Acetate =1)  
Not available.

20/Set  
Forceps, 1/set Not available.

**VOC**

Schiff Reagent Not available.  
Periodic Acid Solution Not available.  
Light Green SF Not available.  
Yellowish Stain  
Sodium Carbonate Not available.  
Solution  
Disposibel Tubes, Not available.  
20/Set  
Forceps, 1/set Not available.

**Viscosity**

Schiff Reagent Not available.  
Periodic Acid Solution Not available.  
Light Green SF Not available.  
Yellowish Stain  
Sodium Carbonate Not available.  
Solution  
Disposibel Tubes, Not available.  
20/Set  
Forceps, 1/set Not available.

**LogK<sub>ow</sub>**

Schiff Reagent Not available.  
Periodic Acid Solution Not available.  
Light Green SF Not available.  
Yellowish Stain  
Sodium Carbonate Not available.  
Solution  
Disposibel Tubes, Not available.  
20/Set  
Forceps, 1/set Not available.

**Ionicity (in Water)**

Schiff Reagent Not available.  
Periodic Acid Solution Not available.  
Light Green SF Not available.  
Yellowish Stain  
Sodium Carbonate Not available.  
Solution  
Disposibel Tubes, Not available.  
20/Set  
Forceps, 1/set Not available.

**Solubility**

Schiff Reagent Soluble in water.  
Periodic Acid Solution Soluble in water.  
Light Green SF Soluble in water.  
Yellowish Stain  
Sodium Carbonate Soluble in water.  
Solution  
Disposibel Tubes, Not available.  
20/Set  
Forceps, 1/set Not available.

<b>Physical Chemical Comments</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.

### Section 10. Stability and Reactivity

<b>Stability and Reactivity</b>	Schiff Reagent	The product is stable.
	Periodic Acid Solution	The product is stable.
	Light Green SF Yellowish Stain	The product is stable.
	Sodium Carbonate Solution	The product is stable.
	Disposibel Tubes, 20/Set	The product is stable.
	Forceps, 1/set	The product is stable.

<b>Conditions of Instability</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.

<b>Incompatibility with Various Substances</b>	Schiff Reagent	Slightly reactive to reactive with oxidizing agents, metals, alkalis.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Slightly reactive to reactive with acids.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.

**Rem/Incompatibility** EMITS TOXIC FUMES WHEN HEATED OR IN CONTACT WITH ACIDS. (Potassium Metabisulfite)

<b>Hazardous Decomposition Products</b>	Schiff Reagent	These products are halogenated compounds, hydrogen chloride.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.

Forceps, 1/set Not available.

**Hazardous Polymerization**

Schiff Reagent Will not occur.  
 Periodic Acid Solution Will not occur.  
 Light Green SF Will not occur.  
 Yellowish Stain  
 Sodium Carbonate Will not occur.  
 Solution  
 Disposibel Tubes, Not available.  
 20/Set  
 Forceps, 1/set Not available.

**Section 11. Toxicological Information****RTECS Number:**

Water ZC0110000  
 Nuchar-Carbon FF5250100  
 Potassium Metabisulfite TT4920000  
 Basic Fuchsin CX9850100  
 Hydrochloric Acid MW4025000  
 Periodic Acid Not available.  
 Light Green SF, Yellowish BQ4900000  
 Acetic Acid AF1225000  
 Thymol XP2275000  
 Sodium Carbonate VZ4050000  
 Disposibel Tubes, 20/Set Not available.  
 Forceps, 1/set Not available.

**Toxicity**

Schiff Reagent Acute oral toxicity (LD<sub>50</sub>): 900 mg/kg [Rabbit].  
 (Hydrochloric acid).  
 Acute toxicity of the vapor (LC<sub>50</sub>): 1108 ppm 1 hour(s)  
 [Mouse]. (Hydrochloric acid).  
 Periodic Acid Solution LD<sub>50</sub>: Not available.  
 LC<sub>50</sub>: Not available.  
 Light Green SF LD<sub>50</sub>: Not available.  
 Yellowish Stain LC<sub>50</sub>: Not available.  
 Sodium Carbonate LD<sub>50</sub>: Not available.  
 Solution LC<sub>50</sub>: Not available.  
 Disposibel Tubes, LD<sub>50</sub>: Not available.  
 20/Set LC<sub>50</sub>: Not available.  
 Forceps, 1/set LD<sub>50</sub>: Not available.  
 LC<sub>50</sub>: Not available.

**Chronic Effects on Humans**

**CARCINOGENIC EFFECTS:** Classified A1 (Confirmed for human.) by ACGIH [Basic Fuchsin].  
 Classified 2B (Possible for human.) by IARC [Basic Fuchsin].  
 Contains material which causes damage to the following organs: mucous membranes.

**Acute Effects on Humans**

Schiff Reagent May be hazardous in case of eye contact (irritant).  
 May be hazardous in case of skin contact (irritant).  
 Skin inflammation is characterized by itching,  
 scaling, reddening, or, occasionally, blistering. May  
 be hazardous in case of inhalation (lung irritant).  
 May be hazardous in case of ingestion.  
 Periodic Acid Solution Hazardous in case of eye contact (irritant).  
 Inflammation of the eye is characterized by redness,

		watering, and itching. Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Hazardous in case of inhalation (lung irritant). May be hazardous in case of inhalation. May be hazardous in case of ingestion.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	May be hazardous in case of eye contact (irritant).
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<b>Special Remarks on Toxicity</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<b>Special Remarks on Chronic Effects on Humans</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<b>Special Remarks on Other Toxic Effects on Humans</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<b>Synergetic Products (Toxicologically)</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.



<b>Irritancy</b>	Schiff Reagent	<u>Draize Test</u> : Not available.
	Periodic Acid Solution	<u>Draize Test</u> : Not available.
	Light Green SF Yellowish Stain	<u>Draize Test</u> : Not available.
	Sodium Carbonate Solution	<u>Draize Test</u> : Not available.
	Disposibel Tubes, 20/Set	<u>Draize Test</u> : Not available.
	Forceps, 1/set	<u>Draize Test</u> : Not available.
<b>Sensitization</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Slightly hazardous in case of inhalation (lung sensitizer).
	Light Green SF Yellowish Stain	Slightly hazardous in case of inhalation (lung sensitizer).
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<b>Carcinogenic Effects</b>	Schiff Reagent	Classified A1 (Confirmed for human.) by ACGIH [Basic Fuchsin]. Classified 2B (Possible for human.) by IARC [Basic Fuchsin].
	Periodic Acid Solution	This material is not known to cause cancer in animals or humans.
	Light Green SF Yellowish Stain	This material is not known to cause cancer in animals or humans.
	Sodium Carbonate Solution	This material is not known to cause cancer in animals or humans.
	Disposibel Tubes, 20/Set	This material is not known to cause cancer in animals or humans.
	Forceps, 1/set	This material is not known to cause cancer in animals or humans.
<b>Toxicity to Reproductive System</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes, 20/Set	Not available.
	Forceps, 1/set	Not available.
<b>Teratogenic Effects</b>	Schiff Reagent	Not available.
	Periodic Acid Solution	Not available.
	Light Green SF Yellowish Stain	Not available.
	Sodium Carbonate Solution	Not available.
	Disposibel Tubes,	Not available.

20/Set  
 Forceps, 1/set Not available.

**Mutagenic Effects**

Schiff Reagent Not available.  
 Periodic Acid Solution Not available.  
 Light Green SF Not available.  
 Yellowish Stain  
 Sodium Carbonate Not available.  
 Solution  
 Disposibel Tubes, Not available.  
 20/Set  
 Forceps, 1/set Not available.

**Section 12. Ecological Information****Ecotoxicity**

Schiff Reagent Not available.  
 Periodic Acid Solution Not available.  
 Light Green SF Not available.  
 Yellowish Stain  
 Sodium Carbonate Not available.  
 Solution  
 Disposibel Tubes, Not available.  
 20/Set  
 Forceps, 1/set Not available.

**BOD5 and COD**

Schiff Reagent Not available.  
 Periodic Acid Solution Not available.  
 Light Green SF Not available.  
 Yellowish Stain  
 Sodium Carbonate Not available.  
 Solution  
 Disposibel Tubes, Not available.  
 20/Set  
 Forceps, 1/set Not available.

**Biodegradable/OECD**

Schiff Reagent Not available.  
 Periodic Acid Solution Not available.  
 Light Green SF Not available.  
 Yellowish Stain  
 Sodium Carbonate Not available.  
 Solution  
 Disposibel Tubes, Not available.  
 20/Set  
 Forceps, 1/set Not available.

**Mobility**

Schiff Reagent Not available.  
 Periodic Acid Solution Not available.  
 Light Green SF Not available.  
 Yellowish Stain  
 Sodium Carbonate Not available.  
 Solution  
 Disposibel Tubes, Not available.  
 20/Set  
 Forceps, 1/set Not available.

Schiff Reagent	These products are halogenated compounds.
Periodic Acid Solution	Not available.
Light Green SF Yellowish Stain	Not available.
Sodium Carbonate Solution	Not available.
Disposibel Tubes, 20/Set	Not available.
Forceps, 1/set	Not available.

**Toxicity of the Products of Biodegradation**

Schiff Reagent	The products of degradation are as toxic as the product itself.
Periodic Acid Solution	The products of degradation are less toxic than the product itself.
Light Green SF Yellowish Stain	The product itself and its products of degradation are not toxic.
Sodium Carbonate Solution	The product itself and its products of degradation are not toxic.
Disposibel Tubes, 20/Set	Not available.
Forceps, 1/set	Not available.

**Special Remarks on the Products of Biodegradation**

Schiff Reagent	Not available.
Periodic Acid Solution	Not available.
Light Green SF Yellowish Stain	Not available.
Sodium Carbonate Solution	Not available.
Disposibel Tubes, 20/Set	Not available.
Forceps, 1/set	Not available.

**Section 13. Disposal Considerations**

**EPA Waste Number**

Schiff Reagent	Not available.
Periodic Acid Solution	Not available.
Light Green SF Yellowish Stain	Not available.
Sodium Carbonate Solution	Not available.
Disposibel Tubes, 20/Set	Not available.
Forceps, 1/set	Not available.

**Treatment**

Schiff Reagent	Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact permitted waste disposer (TSD) to assure compliance with all Current local, State and Federal Regulations.
Periodic Acid Solution	Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be

	accomplished. ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.
Light Green SF Yellowish Stain	Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.
Sodium Carbonate Solution	Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.
Disposibel Tubes, 20/Set	Not available.
Forceps, 1/set	Not available.

#### Section 14. Transport Information

**DOT Classification** Not available.

**TDG Classification** Not available.

**IMO/IMDG Classification** Not available.

**ICAO/IATA Classification** Not available.

#### Section 15. Regulatory Information

<b>U.S. Federal Regulations</b>	Schiff Reagent	TSCA 8(b) inventory: Water; Charcoal; Potassium Metabisulfite; Basic Fuchsin; Hydrochloric acid
	Periodic Acid Solution	TSCA 8(b) inventory: Water; Periodic Acid
	Light Green SF Yellowish Stain	TSCA 8(b) inventory: Light Green SF, Yellowish; Acetic acid.; Thymol; Water
	Sodium Carbonate Solution	TSCA 8(b) inventory: Water; Sodium Carbonate
	Disposibel Tubes, 20/Set	TSCA: Exempt from TSCA listing requirements.
	Forceps, 1/set	TSCA: Exempt from TSCA listing requirements.
	Schiff Reagent	SARA 302/304/311/312 extremely hazardous substances: Hydrochloric acid SARA 302/304 emergency planning and notification: Hydrochloric acid SARA 302/304/311/312 hazardous chemicals: Charcoal; Potassium Metabisulfite; Basic Fuchsin;

Continued on Next Page

	Hydrochloric acid SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Charcoal: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Potassium Metabisulfite: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Basic Fuchsin: Delayed (Chronic) Health Hazard; Hydrochloric acid: Sudden Release of Pressure, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
Periodic Acid Solution	SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: No products were found. SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
Light Green SF Yellowish Stain	SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: Light Green SF, Yellowish; Acetic acid. SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Light Green SF, Yellowish: Delayed (Chronic) Health Hazard; Acetic acid.: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
Sodium Carbonate Solution	SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: Sodium Carbonate SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Sodium Carbonate : Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
Disposibel Tubes, 20/Set	SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: No products were found. SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
Forceps, 1/set	SARA 302/304/311/312 extremely hazardous substances: No products were found.

	SARA 302/304 emergency planning and notification: No products were found.
	SARA 302/304/311/312 hazardous chemicals: No products were found.
	SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
Schiff Reagent	SARA 313 toxic chemical notification and release reporting: Hydrochloric acid 8.65%
Periodic Acid Solution	SARA 313 toxic chemical notification and release reporting: No products were found.
Light Green SF Yellowish Stain	SARA 313 toxic chemical notification and release reporting: No products were found.
Sodium Carbonate Solution	SARA 313 toxic chemical notification and release reporting: No products were found.
Disposibel Tubes, 20/Set	SARA 313 toxic chemical notification and release reporting: No products were found.
Forceps, 1/set	SARA 313 toxic chemical notification and release reporting: No products were found.
Schiff Reagent	Clean Water Act (CWA) 307: No products were found.
Periodic Acid Solution	Clean Water Act (CWA) 307: No products were found.
Light Green SF Yellowish Stain	Clean Water Act (CWA) 307: No products were found.
Sodium Carbonate Solution	Clean Water Act (CWA) 307: No products were found.
Disposibel Tubes, 20/Set	Clean Water Act (CWA) 307: No products were found.
Forceps, 1/set	Clean Water Act (CWA) 307: No products were found.
Schiff Reagent	Clean Water Act (CWA) 311: Hydrochloric acid
Periodic Acid Solution	Clean Water Act (CWA) 311: No products were found.
Light Green SF Yellowish Stain	Clean Water Act (CWA) 311: Acetic acid.
Sodium Carbonate Solution	Clean Water Act (CWA) 311: No products were found.
Disposibel Tubes, 20/Set	Clean Water Act (CWA) 311: No products were found.
Forceps, 1/set	Clean Water Act (CWA) 311: No products were found.
Schiff Reagent	Clean air act (CAA) 112 accidental release prevention: Hydrochloric acid
Periodic Acid Solution	Clean air act (CAA) 112 accidental release prevention: No products were found.
Light Green SF Yellowish Stain	Clean air act (CAA) 112 accidental release prevention: No products were found.
Sodium Carbonate	Clean air act (CAA) 112 accidental release

Solution	prevention: No products were found.
Disposibel Tubes, 20/Set	Clean air act (CAA) 112 accidental release prevention: No products were found.
Forceps, 1/set	Clean air act (CAA) 112 accidental release prevention: No products were found.
Schiff Reagent	Clean air act (CAA) 112 regulated flammable substances: No products were found.
Periodic Acid Solution	Clean air act (CAA) 112 regulated flammable substances: No products were found.
Light Green SF Yellowish Stain	Clean air act (CAA) 112 regulated flammable substances: No products were found.
Sodium Carbonate Solution	Clean air act (CAA) 112 regulated flammable substances: No products were found.
Disposibel Tubes, 20/Set	Clean air act (CAA) 112 regulated flammable substances: No products were found.
Forceps, 1/set	Clean air act (CAA) 112 regulated flammable substances: No products were found.
Schiff Reagent	Clean air act (CAA) 112 regulated toxic substances: Hydrochloric acid
Periodic Acid Solution	Clean air act (CAA) 112 regulated toxic substances: No products were found.
Light Green SF Yellowish Stain	Clean air act (CAA) 112 regulated toxic substances: No products were found.
Sodium Carbonate Solution	Clean air act (CAA) 112 regulated toxic substances: No products were found.
Disposibel Tubes, 20/Set	Clean air act (CAA) 112 regulated toxic substances: No products were found.
Forceps, 1/set	Clean air act (CAA) 112 regulated toxic substances: No products were found.

## WHMIS (Canada)

Schiff Reagent	Class D-2A: Material causing other toxic effects (VERY TOXIC). Class D-2B: Material causing other toxic effects (TOXIC).
Periodic Acid Solution	Class D-2B: Material causing other toxic effects (TOXIC).
Light Green SF Yellowish Stain	Not controlled under WHMIS (Canada).
Sodium Carbonate Solution	Not controlled under WHMIS (Canada).
Disposibel Tubes, 20/Set	Not controlled under WHMIS (Canada).
Forceps, 1/set	Not controlled under WHMIS (Canada).
Schiff Reagent	CEPA DSL: Water; Charcoal; Potassium Metabisulfite; Basic Fuchsin; Hydrochloric acid
Periodic Acid Solution	CEPA DSL: Water; Periodic Acid
Light Green SF Yellowish Stain	CEPA DSL: Light Green SF, Yellowish; Acetic acid.; Thymol; Water
Sodium Carbonate Solution	CEPA DSL: Water; Sodium Carbonate
Disposibel Tubes,	No products were found.

20/Set

Forceps, 1/set

No products were found.

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

**International Regulations****EINECS**

Schiff Reagent	Water	231-791-2	
	Charcoal	231-153-3	
	Potassium Metabisulfite		240-795-3
	Basic Fuchsin	209-321-2	
	Hydrochloric acid	231-595-7	
Periodic Acid Solution	Water	231-791-2	
	Periodic Acid	233-937-0	
Light Green SF Yellowish Stain	Light Green SF, Yellowish		225-906-5
	Acetic acid.	200-580-7	
	Thymol	201-944-8	
	Water	231-791-2	
Sodium Carbonate Solution	Water	231-791-2	
	Sodium Carbonate		207-838-8
Disposibel Tubes, 20/Set	Not available.		
Forceps, 1/set	Not available.		

**DSCL (EEC)**

Schiff Reagent	R34- Causes burns.
Periodic Acid Solution	This product is not classified according to the EU regulations.
Light Green SF Yellowish Stain	This product is not classified according to the EU regulations.
Sodium Carbonate Solution	This product is not classified according to the EU regulations.
Disposibel Tubes, 20/Set	This product is not classified according to the EU regulations.
Forceps, 1/set	This product is not classified according to the EU regulations.

**International Lists**

Schiff Reagent	Australia (NICNAS): Water; Charcoal; Potassium Metabisulfite; Hydrochloric acid Japan (MITI): Water; Potassium Metabisulfite; Hydrochloric acid Korea (TCCL): Water; Charcoal; Potassium Metabisulfite; Hydrochloric acid Philippines (RA6969): Water; Charcoal; Potassium Metabisulfite; Basic Fuchsin; Hydrochloric acid
Periodic Acid Solution	Australia (NICNAS): Water; Periodic Acid  Japan (MITI): Water; Periodic Acid  Korea (TCCL): Water; Periodic Acid  Philippines (RA6969): Water; Periodic Acid
Light Green SF Yellowish Stain	Australia (NICNAS): Light Green SF, Yellowish; Acetic acid.; Thymol; Water



Sodium Carbonate Solution	Germany water class: Acetic acid. Japan (MITI): Light Green SF, Yellowish; Acetic acid.; Thymol; Water Korea (TCCL): Acetic acid.; Thymol; Water Philippines (RA6969): Acetic acid.; Thymol; Water Australia (NICNAS): Water; Sodium Carbonate
	Japan (MITI): Water; Sodium Carbonate
	Korea (TCCL): Water; Sodium Carbonate
Disposibel Tubes, 20/Set	Philippines (RA6969): Water; Sodium Carbonate No products were found.
Forceps, 1/set	No products were found.
Schiff Reagent	China: No products were found.
Periodic Acid Solution	China: No products were found.
Light Green SF Yellowish Stain	China: No products were found.
Sodium Carbonate Solution	China: No products were found.
Disposibel Tubes, 20/Set	China: No products were found.
Forceps, 1/set	China: No products were found.
<b>State Regulations</b>	
Schiff Reagent	Pennsylvania RTK: Hydrochloric acid: (environmental hazard, generic environmental hazard) Massachusetts RTK: Basic Fuchsin; Hydrochloric acid New Jersey: Schiff Reagent
Periodic Acid Solution	New Jersey: Water New Jersey spill list: Periodic Acid Solution
Light Green SF Yellowish Stain	Pennsylvania RTK: Acetic acid.: (environmental hazard, generic environmental hazard) Massachusetts RTK: Acetic acid. New Jersey: Light Green SF Yellowish Stain
Sodium Carbonate Solution	New Jersey: Sodium Carbonate Solution
Disposibel Tubes, 20/Set	No products were found.
Forceps, 1/set	No products were found.

Schiff Reagent	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Basic Fuchsin California prop. 65 (no significant risk level): Basic Fuchsin California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Basic Fuchsin
Periodic Acid Solution	California prop. 65: No products were found.
Light Green SF Yellowish Stain	California prop. 65: No products were found.
Sodium Carbonate Solution	California prop. 65: No products were found.
Disposibel Tubes, 20/Set	California prop. 65: No products were found.
Forceps, 1/set	California prop. 65: No products were found.

### Section 16. Other Information

National Fire  
Protection  
Association  
(U.S.A.)



#### Other Special Considerations

Schiff Reagent	One of four reagents in 64945 kit.
Periodic Acid Solution	One of four reagents in 64945 kit.
Light Green SF Yellowish Stain	One of four reagents in 64945 kit.
Sodium Carbonate Solution	One of four reagents in 64945 kit.
Disposibel Tubes, 20/Set	Not available.
Forceps, 1/set	Not available.

#### Changed Since Last Revision

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#### Notice to Reader

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