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Freezing/Melting Point: 32 deg F (0.00&C)
Decomposition Temperature: Not available
Solubility in water: Soluble
Specific Gravity/Density: 1.0
Molecular Formula: Mixture
Molecular Weight: 0

Section 10 - Stability and Reactivity
Chemical Stability: Stable

Conditions to Avoid: None reported.
Incompatibilities with Other Materials: Not available
Hazardous Decomposition Products: None

Hazardous Polymerization: Has not been reported.
Section 11 - Toxicological Information

RTECS#:
CAS# 1310-73-2: WB4900000
CAS# 1934-21-0: UQ6400000
CAS# 7732-18-5: ZC0110000
CAS# 7778-77-0: TC6615500
LD50/LC50:
RTECS: CAS# 1310-73-2: Draize test, rabbit, eye: 400 mg
Mild; Draize test, rabbit, eye: 1% Severe; Draize test,
rabbit, eye: 50 ug/24H Severe; Draize test, rabbit, eye: 1
mg/24H Severe; Draize test, rabbit, skin: 500 mg/24H
Severe;
RTECS: CAS# 1934-21-0: Oral, mouse: LD50 = 12750
mg/kg.
RTECS: CAS# 7732-18-5: Oral, rat: LD50 = >90
mL/kg.
RTECS: CAS# 7778-77-0: Skin, rabbit: LD50 = >4640
mg/kg.

Carcinogenicity:
Sodium hydroxide -
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
FD&C Yellow 5
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Water
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Potassium phosphate monobasic
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Not available
Teratogenicity: Not available
Reproductive: Not available
Neurotoxicity: Not available
Mutagenicity: Not available
Other: Not available

Section 12 - Ecological Information

Other: Section 13 - Disposal Considerations
Chemical waste generators must determine whether a discarded chemical
is classified as a hazardous waste.
US EPA guidelines for the classification determination are listed in
40 CFR Parts 261.3. Additionally, waste generators must consult state
and local hazardous waste regulations to ensure complete and accurate
classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

US DOT
Shipping Name: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:

Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

USA RQ: CAS# 1310-73-2: 1000 lb final RQ; 454 kg final RQ
Section 15 - Regulatory Information

US Federal
TSCA
CAS# 1310-73-2 is listed on the TSCA Inventory.
CAS# 1934-21-0 is listed on the TSCA Inventory.
CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 7778-77-0 is listed on the TSCA Inventory.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules

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None of the chemicals in this product are under a Chemical Test Rule.
Section 12b

None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 1310-73-2: 1000 lb final RQ; 454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPO.

SARA Codes
CAS # 1310-73-2: acute, reactive.
CAS # 1934-21-0: acute.
CAS # 7778-77-0: acute.

Section 313
No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

Clean Water Act:
CAS# 1310-73-2 is listed as a Hazardous Substance under the CWA.
None of the chemicals in this product are listed as Priority
Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants
under the CWA.
OSHA:

STATE
Sodium hydroxide can be found on the following state right to know
list: California, New Jersey, Pennsylvania, Minnesota,
Massachusetts.
FD&C Yellow 5 is not present on state lists from CA, PA, MN, MA, FL,
or NJ.
Water is not present on state lists from CA, PA, MN, MA, FL, or NJ.
Potassium phosphate monobasic is not present on state lists from CA,
PA, MN, MA, FL, or NJ.

California Prop 65
California No Significant Risk Level:
None of the chemicals in this product are listed.
European/International Regulations
European Labeling in Accordance with EC Directives

Hazard Symbols: Not available
Risk Phrases:
Safety Phrases: S 24/25 Avoid contact with skin and eyes.
WGK (Water Danger/Protection)
CAS# 1310-73-2: 1
CAS# 1934-21-0: 1
CAS# 7732-18-5: Not available
CAS# 7778-77-0: 1

Canada
CAS# 1310-73-2 is listed on Canada's DSL List
CAS# 1934-21-0 is listed on Canada's DSL List
CAS# 7732-18-5 is listed on Canada's DSL List
CAS# 7778-77-0 is listed on Canada's DSL List
Canadian WHMIS Classifications: Not controlled.
This product has been classified in accordance with the hazard
criteria of the Controlled Products Regulations and the MSDS
contains all of the information required by those regulations.
CAS# 1310-73-2 is listed on Canada's Ingredient Disclosure
List
CAS# 1934-21-0 is not listed on Canada's Ingredient
Disclosure List.
CAS# 7732-18-5 is not listed on Canada's Ingredient
Disclosure List.
CAS# 7778-77-0 is not listed on Canada's Ingredient
Disclosure List.

Section 16 - Other Information

MSDS Creation Date:
11/19/1998
Revision #6 Date
10/03/2005
The information above is believed to be accurate and represents the
best information currently available to us. However, we make no
warranty of merchantability or any other warranty, express or
implied, with respect to such information, and we assume no liability
resulting from its use. Users should make their own investigations to
determine the suitability of the information for their particular
purposes. In no event shall the company be liable for any claims,
losses, or damages of any third party or for lost profits or any
special, indirect, incidental, consequential, or exemplary damages
howsoever arising, even if the company has been advised of the
possibility of such damages.

Buffer Solution pH 4.0 (Color-Coded Red)
58235 (KIT)
41128 (individual)
**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****
MSDS Name: Buffer Solution pH 4.0 (Color-Coded Red)
SB105, SB105, SB105, SB105, SB105, SB105

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Synonyms:

None.

Company Identification: Fisher Diagnostics
 Fisher Scientific Company LLC
 8365 Valley Pike
 Middletown, VA 22645-0307

For information, call: 800-524-0494
 Emergency Number: 800-524-0294
 For CHEMTREC assistance, call: 800-424-9300
 For International CHEMTREC assistance, call: 703-527-3887
 Section 2 - Composition, Information on Ingredients

CAS#: 50-00-0
 Chemical Name: Formaldehyde
 %: 0.05
 EINECS#: 200-001-8
 Hazard Symbols: X1
 Risk Phrases: 43

CAS#: 67-56-1
 Chemical Name: Methyl alcohol
 %: 0.02
 EINECS#: 200-659-6
 Hazard Symbols: F+
 Risk Phrases: 11 23/24/25 39/23/24/25

CAS#: 877-24-7
 Chemical Name: Potassium hydrogen phthalate
 %: 1.0
 EINECS#: 212-889-4
 Hazard Symbols:
 Risk Phrases:

CAS#: 7732-18-5
 Chemical Name: Water
 %: 98.91
 EINECS#: 231-791-2
 Hazard Symbols:
 Risk Phrases:

CAS#: 16423-68-0
 Chemical Name: Red #3
 %: 0.02
 EINECS#: 240-474-8
 Hazard Symbols:
 Risk Phrases:

Text for R-phrases: see Section 16

Hazard Symbols:

None listed

Risk Phrases:

None listed

Section 3 - Hazards Identification
EMERGENCY OVERVIEW

Caution! This is expected to be a low hazard for usual industrial handling. May cause irritation.

Target Organs: No data found.

Potential Health Effects

Eye:

May cause eye irritation.

Skin:

May cause mild skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Low hazard for usual industrial handling.

Ingestion:

Low hazard for usual industrial handling. May cause gastric disturbances and electrolytic imbalance.

Inhalation:

May cause allergic respiratory reaction. May cause respiratory tract irritation. Low hazard for usual industrial handling.

Chronic:

May cause cancer according to animal studies.
 Section 4 - First Aid Measures

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin:

Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Wash mouth out with water. Get medical aid if irritation or symptoms occur.

Inhalation:

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Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. Get medical aid if cough or other symptoms appear.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

Extinguishing Media:

Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. For small fires, use dry chemical, carbon dioxide, water spray or regular foam. Cool containers with flooding quantities of water until well after fire is out.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating:

health: 1; flammability: 0; instability: 0;

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling:

Wash hands before eating. Avoid contact with eyes. Keep container tightly closed. Use with adequate ventilation.

Storage:

Store in a cool, dry place. No special precautions indicated.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Formaldehyde	0.3 ppm Ceiling	0.016 ppm TWA 20 ppm IDLH	0.75 ppm TWA; 2 ppm STEL; 0.5 ppm Action Level (Irritant and potential cancer hazard - see 29 CFR 1910.1048)
Methyl alcohol	200 ppm; 250 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous route	200 ppm TWA; 260 mg/m ³ TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m ³ TWA
Potassium hydrogen phthalate	none listed	none listed	none listed
Water	none listed	none listed	none listed
Red #3	none listed	none listed	none listed

OSHA Vacated PELs:

Formaldehyde: 3 ppm TWA (unless specified in 1910.1048)

Methyl alcohol:

200 ppm TWA; 260 mg/m³ TWA

Potassium hydrogen phthalate:

None listed

Water:

None listed

Red #3:

None listed

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

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Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: clear red
Odor: odorless
pH: 4.0
Vapor Pressure: Not available
Vapor Density: 0.7 (Water)
Evaporation Rate: >1.0 (Ether=1)
Viscosity: Not available
Boiling Point: 212 deg F (100.00&C)
Freezing/Melting Point: 32 deg F (0.00&C)
Decomposition Temperature: Not available
Solubility in water: Soluble
Specific Gravity/Density: 1.0
Molecular Formula: Mixture
Molecular Weight: Not available

Section 10 - Stability and Reactivity

Chemical Stability: Stable
Conditions to Avoid: Excess heat.
Incompatibilities with Other Materials: None reported.
Hazardous Decomposition Products: Irritating and toxic fumes and gases.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 50-00-0: LP8925000
CAS# 67-56-1: PC1400000
CAS# 877-24-7: CZ4326000
CAS# 7732-18-5: ZC0110000
CAS# 16423-68-0: LM5950000
LD50/LC50:
RTECS: CAS# 50-00-0: Draize test, rabbit, eye: 750 ug/24H Severe; Draize test, rabbit, eye: 750 ug Severe; Draize test, rabbit, eye: 10 mg Severe; Draize test, rabbit, eye: 37% Severe; Draize test, rabbit, skin: 2 mg/24H Severe; Draize test, rabbit, skin: 50 mg/24H Moderate; Inhalation, mouse: LC50 = 454 mg/m3/4H; Inhalation, mouse: LC50 = 505 mg/m3/2H; Inhalation, rat: LC50 = 203 mg/m3; Inhalation, rat: LC50 = 578 mg/m3/2H; Inhalation, rat: LC50 = 250 ppm/2H; Oral, mouse: LD50 = 42 mg/kg; Oral, mouse: LD50 = 385 mg/kg; Oral, mouse: LD50 = 500 mg/kg; Oral, rat: LD50 = 100 mg/kg; Oral, rat: LD50 = 500 mg/kg; Skin, rabbit: LD50 = 270 mL/kg; Skin, rabbit: LD50 = 270 mg/kg.
RTECS: CAS# 67-56-1: Draize test, rabbit, eye: 40 mg Moderate; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, rabbit: LC50 = 81000 mg/m3/14H; Inhalation, rat: LC50 = 64000 ppm/4H; Oral, mouse: LD50 = 7300 mg/kg; Oral, rabbit: LD50 = 14200 mg/kg; Oral, rat: LD50 = 5600 mg/kg; Skin, rabbit: LD50 = 15800 mg/kg.
RTECS: CAS# 877-24-7: Dermal, guinea pig: LD50 = >1 gm/kg; Oral, rat: LD50 = >3200 mg/kg.
RTECS: CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.
RTECS: CAS# 16423-68-0: Oral, mouse: LD50 = 1264 mg/kg; Oral, rat: LD50 = 1840 mg/kg.

Carcinogenicity:
Formaldehyde -
ACGIH: A2 - Suspected Human Carcinogen
California: carcinogen, initial date 1/1/88 (gas)
NTP: Suspect carcinogen
IARC: Group 1 carcinogen
Methyl alcohol -
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Potassium hydrogen phthalate -
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Water -
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Red #3 -
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology:
Not available
Teratogenicity:

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Not available
Reproductive: Not available
Neurotoxicity: Not available
Mutagenicity: Not available
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information
Not available

Section 13 - Disposal Considerations
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.
US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.2. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: CAS# 50-00-0: waste number U122. CAS# 67-56-1: waste number U154 (Ignitable waste).
Section 14 - Transport Information

US DOT
Shipping Name: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:

Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:
USA RQ: CAS# 50-00-0: 100 lb final RQ; 45.4 kg final RQ
USA RQ: CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ
Section 15 - Regulatory Information

US Federal
TSCA
CAS# 50-00-0 is listed on the TSCA Inventory.
CAS# 67-56-1 is listed on the TSCA Inventory.
CAS# 877-24-7 is listed on the TSCA Inventory.
CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 16423-68-0 is listed on the TSCA Inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 50-00-0: 100 lb final RQ; 45.4 kg final RQ
CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ
SARA Section 302 Extremely Hazardous Substances
CAS# 50-00-0: 500 lb TPQ
SARA Codes
CAS # 50-00-0: acute, chronic.
CAS # 67-56-1: acute, flammable.
CAS # 877-24-7: acute.

Section 313
This material contains Formaldehyde (CAS# 50-00-0, 0.05%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.
This chemical is not at a high enough concentration to be reportable under Section 313.
Clean Air Act:
CAS# 50-00-0 is listed as a hazardous air pollutant (HAP).
CAS# 67-56-1 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.
Clean Water Act:
CAS# 50-00-0 is listed as a Hazardous Substance under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
STATE
Formaldehyde can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
Methyl alcohol can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
Potassium hydrogen phthalate is not present on state lists from CA, PA, MN, MA, FL, or NJ.
Water is not present on state lists from CA, PA, MN, MA, FL, or NJ.
Red #3 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California Prop 65
The following statement(s) is(are) made in order to comply with

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the California Safe Drinking Water Act:
WARNING: This product contains Formaldehyde, a chemical known to the
state of California to cause cancer.
California No Significant Risk Level:
CAS# 50-00-0: 40 5g/day NSRL

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: Not available
Risk Phrases:
Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 50-00-0: 2
CAS# 67-56-1: 1
CAS# 877-24-7: Not available
CAS# 7732-18-5: Not available
CAS# 16423-68-0: 1

Canada

CAS# 50-00-0 is listed on Canada's DSL List
CAS# 67-56-1 is listed on Canada's DSL List
CAS# 877-24-7 is listed on Canada's DSL List
CAS# 7732-18-5 is listed on Canada's DSL List
CAS# 16423-68-0 is listed on Canada's DSL List

Canadian WHMIS Classifications: Not controlled.

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

CAS# 50-00-0 is listed on Canada's Ingredient Disclosure List
CAS# 67-56-1 is listed on Canada's Ingredient Disclosure List
CAS# 877-24-7 is not listed on Canada's Ingredient Disclosure
List.
CAS# 7732-18-5 is not listed on Canada's Ingredient
Disclosure List.
CAS# 16423-68-0 is not listed on Canada's Ingredient
Disclosure List.

Section 16 - Other Information

MSDS Creation Date:
10/16/1998
Revision #8 Date
10/03/2005

The information above is believed to be accurate and represents the
best information currently available to us. However, we make no
warranty of merchantability or any other warranty, express or
implied, with respect to such information, and we assume no liability
resulting from its use. Users should make their own investigations to
determine the suitability of the information for their particular
purposes. In no event shall the company be liable for any claims,
losses, or damages of any third party or for lost profits or any
special, indirect, incidental, consequential, or exemplary damages
howsoever arising, even if the company has been advised of the
possibility of such damages.