

## SAFETY DATA SHEET

Creation Date 28-Jan-2010

Revision Date 28-Dec-2021

Revision Number 5

### 1. Identification

**Product Name** Buffer Solution, pH 4.00, Color-Coded Red. Certified

**Cat No. :** AC611040000; AC611040040; AC611045000

**Synonyms** No information available

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

**Emergency Telephone Number** For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

#### Label Elements

None required

#### Hazards not otherwise classified (HNOC)

None identified

WARNING. Cancer and Reproductive Harm - <https://www.p65warnings.ca.gov/>.

### 3. Composition/Information on Ingredients

Component	CAS No	Weight %
Water	7732-18-5	98.91
1,2-Benzenedicarboxylic acid, monopotassium salt	877-24-7	1.0
Formaldehyde	50-00-0	0.05
Methyl alcohol	67-56-1	0.02
Fluorescein, 2',4',5',7'-tetraiodo, disodium salt	16423-68-0	0.02

#### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.
<b>Most important symptoms and effects</b>	None reasonably foreseeable.
<b>Notes to Physician</b>	Treat symptomatically

#### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	Not applicable
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. None reasonably foreseeable.

#### Hazardous Combustion Products

Thermal decomposition can lead to release of irritating gases and vapors.

#### Protective Equipment and Precautions for Firefighters

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

#### NFPA

**Health**  
1

**Flammability**  
0

**Instability**  
0

**Physical hazards**  
N/A

#### 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Ensure adequate ventilation.
<b>Environmental Precautions</b>	Should not be released into the environment.

**Methods for Containment and Clean Sweep up and shovel into suitable containers for disposal.**  
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## 7. Handling and storage

**Handling** Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

**Storage.** Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. None known.

## 8. Exposure controls / personal protection

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Formaldehyde	TWA: 0.1 ppm STEL: 0.3 ppm	(Vacated) TWA: 3 ppm (Vacated) STEL: 10 ppm (Vacated) Ceiling: 5 ppm TWA: 0.75 ppm STEL: 2 ppm	IDLH: 20 ppm TWA: 0.016 ppm Ceiling: 0.1 ppm	Ceiling: 0.3 ppm
Methyl alcohol	TWA: 200 ppm STEL: 250 ppm Skin	(Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m <sup>3</sup> (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m <sup>3</sup> Skin TWA: 200 ppm TWA: 260 mg/m <sup>3</sup>	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> STEL: 250 ppm STEL: 325 mg/m <sup>3</sup>	TWA: 200 ppm STEL: 250 ppm

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures** None under normal use conditions.

### Personal Protective Equipment

**Eye/face Protection** 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.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Red
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	4.0
<b>Melting Point/Range</b>	0 °C / 32 °F
<b>Boiling Point/Range</b>	100 °C / 212 °F
<b>Flash Point</b>	Not applicable
<b>Evaporation Rate</b>	1.0 (ether = 1)
<b>Flammability (solid,gas)</b>	Not applicable
<b>Flammability or explosive limits</b>	

Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	0.7 (Water = 1.0)
Specific Gravity	1.0
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Excess heat.
<b>Incompatible Materials</b>	None known
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapors
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

<b>Product Information</b>	No acute toxicity information is available for this product
<b>Oral LD50</b>	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
<b>Dermal LD50</b>	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
<b>Vapor LC50</b>	Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

### **Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
1,2-Benzenedicarboxylic acid, monopotassium salt	LD50 > 3200 mg/kg ( Rat )	>1000 mg/kg	Not listed
Formaldehyde	500 mg/kg (Rat)	LD50 = 270 mg/kg (Rabbit)	0.578 mg/L (Rat) 4 h
Methyl alcohol	LD50 = 1187 – 2769 mg/kg (Rat)	LD50 = 17100 mg/kg ( Rabbit )	LC50 = 128.2 mg/L ( Rat ) 4 h
Fluorescein, 2',4',5',7'-tetraiodo, disodium salt	Not listed	LD50 > 2000 mg/kg ( Rat )	Not listed

<b>Toxicologically Synergistic Products</b>	No information available
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### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Irritation</b>	No information available
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<b>Sensitization</b>	No information available
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<b>Carcinogenicity</b>	The table below indicates whether each agency has listed any ingredient as a carcinogen.
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Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed				
1,2-Benzenedicarboxylic acid, monopotassium salt	877-24-7	Not listed				
Formaldehyde	50-00-0	Group 1	Known	A1	X	A2

Methyl alcohol	67-56-1	Not listed				
Fluorescein, 2',4',5',7'-tetraiodo, disodium salt	16423-68-0	Not listed				

IARC (International Agency for Research on Cancer)

IARC (International Agency for Research on Cancer)

NTP: (National Toxicity Program)

Group 1 - Carcinogenic to Humans  
Group 2A - Probably Carcinogenic to Humans  
Group 2B - Possibly Carcinogenic to Humans  
NTP: (National Toxicity Program)

ACGIH: (American Conference of Governmental Industrial Hygienists)

Known - Known Carcinogen  
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

Mexico - Occupational Exposure Limits - Carcinogens

A1 - Known Human Carcinogen  
A2 - Suspected Human Carcinogen  
A3 - Animal Carcinogen  
ACGIH: (American Conference of Governmental Industrial Hygienists)  
Mexico - Occupational Exposure Limits - Carcinogens  
A1 - Confirmed Human Carcinogen  
A2 - Suspected Human Carcinogen  
A3 - Confirmed Animal Carcinogen  
A4 - Not Classifiable as a Human Carcinogen  
A5 - Not Suspected as a Human Carcinogen

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known  
**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Formaldehyde	Not listed	Leuciscus idus: LC50 = 15 mg/L 96h	Not listed	EC50 = 20 mg/L 96h EC50 = 2 mg/L 48h
Methyl alcohol	Not listed	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min	EC50 > 10000 mg/L 24h

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available.

**Mobility**

Component	log Pow
Formaldehyde	-0.35
Methyl alcohol	-0.74

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Formaldehyde - 50-00-0	U122	-
Methyl alcohol - 67-56-1	U154	-

### 14. Transport information

**DOT** Not regulated  
**TDG** Not regulated  
**IATA** Not regulated  
**IMDG/IMO** Not regulated

### 15. Regulatory information

#### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Water	7732-18-5	X	ACTIVE	-
1,2-Benzenedicarboxylic acid, monopotassium salt	877-24-7	X	ACTIVE	-
Formaldehyde	50-00-0	X	ACTIVE	-
Methyl alcohol	67-56-1	X	ACTIVE	-
Fluorescein, 2',4',5',7'-tetraiodo, disodium salt	16423-68-0	X	ACTIVE	-

#### Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

#### International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Water	7732-18-5	X	-	231-791-2	X	X		X	X	KE-35400
1,2-Benzenedicarboxylic acid, monopotassium salt	877-24-7	X	-	212-889-4	X	X	X	X	X	KE-02310
Formaldehyde	50-00-0	X	-	200-001-8	X	X	X	X	X	KE-17074
Methyl alcohol	67-56-1	X	-	200-659-6	X	X	X	X	X	KE-23193
Fluorescein, 2',4',5',7'-tetraiodo, disodium salt	16423-68-0	X	-	240-474-8	X	X	X	X	X	KE-10872

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

#### U.S. Federal Regulations

##### SARA 313

Component	CAS No	Weight %	SARA 313 - Threshold Values %
Formaldehyde	50-00-0	0.05	0.1
Methyl alcohol	67-56-1	0.02	1.0

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)**

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Formaldehyde	X	100 lb	-	-

**Clean Air Act**

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Formaldehyde	X		-
Methyl alcohol	X		-

**OSHA - Occupational Safety and Health Administration** Not applicable

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Formaldehyde	2 ppm STEL 0.5 ppm Action Level 0.75 ppm TWA	TQ: 1000 lb

**CERCLA** This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Formaldehyde	100 lb	100 lb
Methyl alcohol	5000 lb	-

**California Proposition 65** This product contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
Formaldehyde	50-00-0	Carc. (Gaseous only)	40 µg/day	Carcinogen
Methyl alcohol	67-56-1	Developmental	-	Developmental

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Water	-	-	X	-	-
Formaldehyde	X	X	X	X	X
Methyl alcohol	X	X	X	X	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product contains the following DHS chemicals:  
**Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

Component	DHS Chemical Facility Anti-Terrorism Standard
Formaldehyde	Release STQs - 15000lb (solution)

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH**

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Formaldehyde	-	Use restricted. See item 72.	-

		(see link for restriction details) Use restricted. See item 28. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	
Methyl alcohol	-	Use restricted. See item 69. (see link for restriction details)	-
Fluorescein, 2',4',5',7'-tetraiodo, disodium salt	-	Use restricted. See item 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>

#### Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable
1,2-Benzenedicarboxylic acid, monopotassium salt	877-24-7	Not applicable	Not applicable	Not applicable	Not applicable
Formaldehyde	50-00-0	Listed	Not applicable	Not applicable	Not applicable
Methyl alcohol	67-56-1	Listed	Not applicable	Not applicable	Not applicable
Fluorescein, 2',4',5',7'-tetraiodo, disodium salt	16423-68-0	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Water	7732-18-5	Not applicable	Not applicable	Not applicable	Not applicable
1,2-Benzenedicarboxylic acid, monopotassium salt	877-24-7	Not applicable	Not applicable	Not applicable	Not applicable
Formaldehyde	50-00-0	5 tonne	50 tonne	Not applicable	Not applicable
Methyl alcohol	67-56-1	500 tonne	5000 tonne	Not applicable	Not applicable
Fluorescein, 2',4',5',7'-tetraiodo, disodium salt	16423-68-0	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

**Prepared By** Regulatory Affairs  
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**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**