

ALFAA42423

## Buffer solution, pH 9.54, No Color, Specpure®

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**产品说明:** 缓冲溶液, pH 9.54 (+/-0.01 @ 25°C), No Color, Specpure®, NIST 可追踪的  
**Product Description:** Buffer solution, pH 9.54, No Color, Specpure®

**Cat No. :** 42423

**Supplier** Avocado Research Chemicals Ltd.  
(Part of Thermo Fisher Scientific)  
Shore Road, Heysham  
Lancashire, LA3 2XY,  
United Kingdom  
Office Tel: +44 (0) 1524 850506  
Office Fax: +44 (0) 1524 850608

**Emergency Telephone Number** For information **US** call: 001-800-227-6701 / **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

**E-mail address** begel.sdsdesk@thermofisher.com

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

### SECTION 2. HAZARD IDENTIFICATION

**Physical State**  
Liquid

**Appearance**  
Colorless

**Odor**  
Odorless

#### Emergency Overview

The product contains no substances which at their given concentration are considered to be hazardous to health.

#### Classification of the substance or mixture

Based on available data, the classification criteria are not met

#### Label Elements

None required

#### **Physical and Chemical Hazards**

None identified.

#### **Health Hazards**

The product contains no substances which at their given concentration are considered to be hazardous to health.

#### **Environmental hazards**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants. Will likely be mobile in the environment due to its water solubility. The product is water soluble, and may spread in water systems.

This product does not contain any known or suspected endocrine disruptors.

# SAFETY DATA SHEET

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Water	7732-18-5	99.55
Sodium carbonate	497-19-8	0.20
Sodium bicarbonate	144-55-8	0.2
Sodium hydroxide	1310-73-2	0.05

## SECTION 4. FIRST AID MEASURES

### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

### Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur.

### Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

### Most important symptoms and effects

None reasonably foreseeable.

### Self-Protection of the First Aider

No special precautions required.

### Notes to Physician

Treat symptomatically.

## SECTION 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### Extinguishing media which must not be used for safety reasons

No information available.

### Specific Hazards Arising from the Chemical

None reasonably foreseeable.

### 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.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions

Ensure adequate ventilation. Use personal protective equipment as required.

### Environmental Precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

### Methods for Containment and Clean Up

# SAFETY DATA SHEET

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Sweep up and shovel into suitable containers for disposal.

Refer to protective measures listed in Sections 8 and 13.

## SECTION 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 container tightly closed in a dry and well-ventilated place.

### Specific Use(s)

Use in laboratories

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	China	Taiwan	Thailand	Hong Kong
Sodium hydroxide	Ceiling: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Sodium hydroxide	Ceiling: 2 mg/m <sup>3</sup>	(Vacated) Ceiling: 2 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Ceiling: 2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup> STEL	

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

### Exposure Controls

#### Engineering Measures

None under normal use conditions.

#### Personal protective equipment

**Eye Protection**                      Wear safety glasses with side shields (or goggles) (European standard - EN 166)

**Hand Protection**                      Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber	See manufacturers	-	EN 374	(minimum requirement)
Nitrile rubber	recommendations			
Neoprene				
PVC				

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection**                      Long sleeved clothing

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

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**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particle filter

**Small scale/Laboratory use** Maintain adequate ventilation

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

**Environmental exposure controls** No information available.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colorless	
<b>Physical State</b>	Liquid	
<b>Odor</b>	Odorless	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	No information available	
<b>Melting Point/Range</b>	No data available	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	No information available	
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Evaporation Rate</b>	No data available	
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	No data available	
<b>Vapor Density</b>	No data available	(Air = 1.0)
<b>Specific Gravity / Density</b>	1.005 g/cm <sup>3</sup>	@ 20 °C
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	Miscible	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	No data available	
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	

## SECTION 10. STABILITY AND REACTIVITY

**Stability** Stable under normal conditions.

**Hazardous Reactions** None under normal processing.  
**Hazardous Polymerization** No information available.

**Conditions to Avoid** None known.

**Materials to avoid** No information available.

**Hazardous Decomposition Products** None under normal use conditions.

## SECTION 11. TOXICOLOGICAL INFORMATION

# SAFETY DATA SHEET

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## Product Information

### (a) acute toxicity; Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Sodium carbonate	2800 mg/kg ( Rat )	> 2000 mg/kg (rabbit)	2.3 mg/l 2h (Rat)
Sodium bicarbonate	LD50 = 4220 mg/kg ( Rat )		
Sodium hydroxide	LD50 = 325 mg/kg ( Rat )	LD50 = 1350 mg/kg ( Rabbit )	

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;  
Respiratory No data available  
Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available  
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available  
Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects, both acute and delayed No information available

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects** Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Sodium carbonate	Lepomis macrochirus: LC50: 300 mg/L/96h Gambusia affinis: LC50: 740 mg/L/96h	EC50: = 265 mg/L, 48h (Daphnia magna)		-
Sodium bicarbonate	LC50: 8250 - 9000 mg/L, 96h static (Lepomis macrochirus)	EC50: 2350 mg/L/48h	EC50: 650 mg/L/120h	-
Sodium hydroxide	LC50: = 45.4 mg/L, 96h static (Oncorhynchus)	-	-	-

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**Persistence and Degradability****Persistence**

Miscible with water, Persistence is unlikely, based on information available.

**Bioaccumulative Potential**

Bioaccumulation is unlikely

**Mobility in soil**

The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility Highly mobile in soils

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**Persistent Organic Pollutant**

This product does not contain any known or suspected substance

**Ozone Depletion Potential**

This product does not contain any known or suspected substance

**SECTION 13. DISPOSAL CONSIDERATIONS****Waste from Residues/Unused Products**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

**Contaminated Packaging**

Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

**Other Information**

Waste codes should be assigned by the user based on the application for which the product was used.

**SECTION 14. TRANSPORT INFORMATION****Road and Rail Transport**

Not Regulated

**IMDG/IMO**

Not regulated

**IATA**

Not regulated

**Special Precautions for User**

No special precautions required

**SECTION 15. REGULATORY INFORMATION****International Inventories**

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Water	-	-	X	X	231-791-2	X	X	X	X		X	KE-35400
Sodium carbonate	-	-	X	X	207-838-8	X	X	X	X	X	X	KE-31380
Sodium bicarbonate	-	-	X	X	205-633-8	X	X	X	X	X	X	KE-31360
Sodium hydroxide	X	X	X	X	215-185-5	X	X	X	X	X	X	KE-31487

## National Regulations

### SECTION 16. OTHER INFORMATION

<b>Prepared By</b>	Health, Safety and Environmental Department
<b>Revision Date</b>	08-May-2024
<b>Revision Summary</b>	New emergency telephone response service provider.

#### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

#### Legend

<p><b>CAS</b> - Chemical Abstracts Service</p> <p><b>EINECS/ELINCS</b> - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances</p> <p><b>PICCS</b> - Philippines Inventory of Chemicals and Chemical Substances</p> <p><b>IECSC</b> - Chinese Inventory of Existing Chemical Substances</p> <p><b>KECL</b> - Korean Existing and Evaluated Chemical Substances</p> <p><b>WEL</b> - Workplace Exposure Limit</p> <p><b>ACGIH</b> - American Conference of Governmental Industrial Hygienists</p> <p><b>DNEL</b> - Derived No Effect Level</p> <p><b>RPE</b> - Respiratory Protective Equipment</p> <p><b>LC50</b> - Lethal Concentration 50%</p> <p><b>NOEC</b> - No Observed Effect Concentration</p> <p><b>PBT</b> - Persistent, Bioaccumulative, Toxic</p> <p><b>ICAO/IATA</b> - International Civil Aviation Organization/International Air Transport Association</p> <p><b>ADR</b> - European Agreement Concerning the International Carriage of Dangerous Goods by Road</p> <p><b>OECD</b> - Organisation for Economic Co-operation and Development</p> <p><b>BCF</b> - Bioconcentration factor</p>	<p><b>TSCA</b> - United States Toxic Substances Control Act Section 8(b) Inventory</p> <p><b>DSL/NDSL</b> - Canadian Domestic Substances List/Non-Domestic Substances List</p> <p><b>ENCS</b> - Japanese Existing and New Chemical Substances</p> <p><b>AICS</b> - Australian Inventory of Chemical Substances</p> <p><b>NZIoC</b> - New Zealand Inventory of Chemicals</p> <p><b>TWA</b> - Time Weighted Average</p> <p><b>IARC</b> - International Agency for Research on Cancer</p> <p><b>PNEC</b> - Predicted No Effect Concentration</p> <p><b>LD50</b> - Lethal Dose 50%</p> <p><b>EC50</b> - Effective Concentration 50%</p> <p><b>POW</b> - Partition coefficient Octanol:Water</p> <p><b>vPvB</b> - very Persistent, very Bioaccumulative</p> <p><b>IMO/IMDG</b> - International Maritime Organization/International Maritime Dangerous Goods Code</p> <p><b>MARPOL</b> - International Convention for the Prevention of Pollution from Ships</p> <p><b>ATE</b> - Acute Toxicity Estimate</p> <p><b>VOC</b> - (Volatile Organic Compound)</p>
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#### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>  
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

<b>Physical hazards</b>	On basis of test data
<b>Health Hazards</b>	Calculation method
<b>Environmental hazards</b>	Calculation method

#### 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 Safety Data Sheet**