



# Safety Data Sheet

This safety data sheet complies with the requirements of:  
JIS Z 7253:2019

Revision Date 2021-02-09  
Revision Number 2

## 1. Identification

**Product Name** Amplification Buffer  
**Product Code** ST2209  
**CAS-No** 7732-18-5  
**Registration number** No information available  
**Details of the supplier of the safety data sheet**

### Supplier

Japan:

Takara Bio Inc.

Nojihigashi 7-4-38

Kusatsu, Shiga 525-0058, Japan

Phone: +81.77.565.6972

Web: www.takara-bio.com

China:

Takara Biomedical Technology (Beijing) Co., Ltd.

Life Science Park, 22 KeXueYuan Road, Changping District,

Beijing 102206, China

Phone: +86 10 8072 0980

Web: www.takarabiomed.com.cn

**Emergency telephone number** In case of emergency, call PERS (Professional Emergency Resource Services)  
1-800-633-8253 (US) or 801-629-0667 (international).

### Recommended use of the chemical and restrictions on use

**Identified uses** For research use only. Not for use in diagnostic procedures

**Restrictions on use** No information available

## 2. Hazard(s) identification

### GHS Classification

Not classified

Acute toxicity - Oral	Classification not possible
Acute toxicity - Dermal	Classification not possible
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Classification not possible
Acute toxicity - Inhalation (Dusts/Mists)	Classification not possible
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	No effects on or via lactation
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Classification not possible
Chronic aquatic toxicity	Classification not possible
Ozone	Classification not possible

**GHS label elements****Hazard Statements**

Not classified

**Prevention**

• Not applicable

**Response**

• Not applicable

**Storage**

• Not applicable

**Disposal**

• Not applicable

**Other hazards**

No information available.

**3. Composition/information on ingredients****Pure substance/mixture**

Mixture

**CAS-No**

7732-18-5

Chemical name	CAS No	Weight-%	ENCS Inventory	ENCS Number	ISHL Inventory	ISHL No
Tetramethylammonium sulfate	14190-16-0	0.1 - 1	Existing	(2)-186	Existing	(2)-186
Tetramethylammonium chloride	75-57-0	0.1 - 1	Existing	(1)-215,(2)-186	Existing	(1)-215,(2)-186

**Pollutant Release and Transfer Registry (PRTR)**

Not applicable

**Industrial Safety and Health Law**ISHL Notifiable Substances

Not applicable

Harmful Substances Whose Names Are to be Indicated on the Label

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**4. First-aid measures****In case of inhalation**

Remove to fresh air.

**In case of skin contact**

Wash skin with soap and water.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**In case of ingestion**

Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms/effects, acute and delayed**

No information available.

**Note to physicians** Treat symptomatically.

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical** No information available.

**Special Extinguishing Media  
Large Fire** Cool drums with water spray.  
CAUTION: Use of water spray when fighting fire may be inefficient.

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions** See Section 12 for additional Ecological Information.

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

**Handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Storage**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Exposure guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological occupational exposure limits** This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

**Environmental exposure controls** No information available.

**Personal Protective Equipment  
Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

<b>Eye/face protection</b>	No special protective equipment required.
<b>Skin and body protection</b>	No special protective equipment required.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	Clear, colorless
<b>Physical state</b>	Liquid
<b>Color</b>	No information available
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>		No information available
<b>Boiling point/boiling range (°C)</b>		No information available
<b>Flammability (solid, gas)</b>		No information available
<b>Upper/lower flammability or explosive limits</b>		
<b>Upper flammability limit:</b>		
<b>Lower flammability limit:</b>		
<b>Flash point</b>		ASTM D 56
<b>Evaporation Rate</b>		No information available
<b>Autoignition temperature</b>	392.8 °C / 739 °F	No information available
<b>Decomposition temperature</b>		No information available
<b>pH</b>		No information available
<b>Viscosity</b>		
<b>Kinematic viscosity</b>		No information available
<b>Dynamic Viscosity</b>		No information available
<b>Water solubility</b>		No information available
<b>Solubility in other solvents</b>		No information available
<b>Partition Coefficient (n-octanol/water)</b>		No information available
<b>Vapor pressure</b>		No information available
<b>Vapor density</b>		No information available
<b>Relative density</b>		No information available
<b>Particle characteristics</b>		
<b>Particle Size</b>		Not applicable
<b>Particle Size Distribution</b>		Not applicable

### Other information

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available

## 10. Stability and reactivity

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Incompatible materials</b>	None known based on information supplied.
<b>Hazardous Decomposition Products</b>	None known based on information supplied.
<b>Explosion Data</b>	
<b>Sensitivity to static discharge</b>	None.
<b>Sensitivity to mechanical impact</b>	None.

## 11. Toxicological information

### Acute toxicity

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (inhalation-dust/mist) 37.9643 mg/l

0.87949 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

2.07057 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

9.32132 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

9.32132 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

2.07057 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Tetramethylammonium chloride	= 50 mg/kg ( Rat )	-	-

<b>Symptoms</b>	No information available.
<b>Product Information</b>	
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Respiratory or skin sensitization</b>	Classification not possible.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Target organ effects STOT - single exposure</b>	Kidney. Respiratory system. Eyes. Skin. Based on available data, the classification criteria are not met. Classification not possible.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met. Classification not possible.

## 12. Ecological information

<b>Ecotoxicity</b>	Classification not possible.
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**Percentage for unknown hazards** 0.87949 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Tetramethylammonium chloride	-	431 - 495: 96 h Pimephales promelas mg/L LC50 flow-through	-

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Hazardous to the ozone layer** Classification not possible. Based on available data, the classification criteria are not met.  
**Other adverse effects** No information available.

### 13. Disposal considerations

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

**IMDG** Not regulated

**ADR** Not regulated

**IATA** Not regulated

**Japan** Not regulated

### 15. Regulatory information

#### National regulations

#### **Pollutant Release and Transfer Registry (PRTR)**

Not applicable

#### **Industrial Safety and Health Law**

Not applicable

#### **ISHL Notifiable Substances**

Not applicable

#### **Poisonous and Deleterious Substances Control Law**

Not applicable

#### **Fire Service Law:**

Not applicable

#### **Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**

Not applicable

Chemical name	CAS No	Chemical Substances Control Law
Tetramethylammonium sulfate	14190-16-0	Priority assessment chemical substance
Tetramethylammonium chloride	75-57-0	Priority assessment chemical substance

#### **Act on Prevention of Marine Pollution and Maritime Disaster**

Not applicable

#### **Water Pollution Control Act**

Hazardous substance per Water Pollution Control Law article 2 and Enforcement Order article 2

**Air Pollution Control Law**

Volatile organic compound per Air Pollution Control Law article 2, paragraph 4

**International Regulations**

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

**IECSC**

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**16. Other information**

**Revision Date** 2021-02-09  
**Revision Note** No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	Time weighted average	Ceiling	Maximum limit value
*	Skin designation	+	Sensitizers
**	Hazard Designation		

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Chemicals Agency

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

**Disclaimer**

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**End of Safety Data Sheet**