



Safety Data Sheet

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

Revision Date 2021-04-17
Revision Number 1

1. Identification

Product Name Amplification Buffer
Product Code ST2401
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 a hazardous substance or mixture according to the Globally Harmonized System (GHS) 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 a hazardous substance or mixture according to the Globally Harmonized System (GHS) 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**

Chemical name	CAS No	Weight-%	ENCS Inventory	ENCS Number	ISHL Inventory	ISHL No
Tetramethylammonium sulfate	14190-16-0	1 - 5	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.
Eye/face protection	No special protective equipment required.
Skin and body protection	No special protective equipment required.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear, colorless
Physical state	Liquid
Color	No information available
Odor	Mild amine
Odor Threshold	No information available

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

Other information

Explosive properties	No information available
Oxidizing properties	No information available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Incompatible materials	None known based on information supplied.
Hazardous Decomposition Products	None known based on information supplied.
Explosion Data	
Sensitivity to static discharge	None.
Sensitivity to mechanical impact	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 (oral)	63,641.70 mg/kg
ATEmix (dermal)	51,406.00 mg/kg
ATEmix (inhalation-dust/mist)	18.7700 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Tetramethylammonium chloride	= 50 mg/kg (Rat)	200 - 500 mg/kg (Rabbit)	-

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

12. Ecological information

Ecotoxicity	Classification not possible.		
Percentage for unknown hazards	0.7616 % 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	
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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)

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed

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/NDSL - 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 2021-04-17
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

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