

Safety Data Sheet

This safety data sheet was created pursuant to the requirements of: Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision Date 2023-12-29 **Revision Number** 5

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code S4161

Product Name Loading Buffer

Pure substance/mixture

Mixture 1.2. Relevant identified uses of the substance or mixture and uses advised against

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

No information available Uses advised against

1.3. Details of the supplier of the safety data sheet

Supplier

USA:

Takara Bio USA, Inc. 2560 Orchard Parkway San Jose, CA 95131, USA Phone: 800.662.2566/888.251.6618

Web: www.takarabio.com

Europe:

Takara Bio Europe S.A.S. 34. Rue de la Croix de Fer 78100 Saint-Germain-en-Laye, France

Phone: +33.1.39.04.68.80 Web: www.takarabio.com

Europe:

Takara Bio Europe AB Arvid Wallgrens Backe 20, SE-413 46 Göteborg, Sweden Phone: +46.31.758.09.00

Web: www.takarabio.com

India:

DSS Takara Bio India Pvt. Ltd. A-5 Mohan Co-operative Industrial Estate, Mathura Road,

New Delhi 110044, India

Phone: +91.1800.212.4922 (Toll free)

Web: www.takarabio.com

For further information, please contact:

1.4. Emergency telephone number

Emergency telephone In case of emergency, call PERS (Professional Emergency Resource Services)

1-800-633-8253 (US) or 801-629-0667 (international).

Marco Marano Italy

CAV "Osp. Pediatrico Bambino Gesù" Dip. Emergenza e Accettazione DEA Roma, Piazza Sant'Onofrio,4 00165
0668593726

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to

Regulation (EC) No. 1272/2008 [CLP]

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

EUH210 - Safety data sheet available on request

2.3. Other hazards

Causes mild skin irritation.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration	EC No (EU	Classification according	Specific	M-Factor	M-Factor
		number	Index No)	to Regulation (EC) No.	concentration		(long-term)
				1272/2008 [CLP]	limit (SCL)		
Acetic acid	1 - 5	No data available	200-580-7	Skin Corr. 1A (H314)	Eye Irrit. 2 ::	-	-
64-19-7			(607-002-00-6)	Flam. Liq. 3 (H226)	10%<=C<25%		
					Skin Corr. 1A ::		
					C>=90%		
					Skin Corr. 1B ::		
					25%<=C<90%		
					Skin Irrit. 2 ::		
					10%<=C<25%		

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50	Inhalation LC50 - 4	Inhalation LC50 - 4	Inhalation LC50 - 4
		mg/kg	hour - dust/mist - mg/L	hour - vapor - mg/L	hour - gas - ppm
Acetic acid 64-19-7	3310	1060	11.4	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No.

1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

Consult a physician.

Skin contact Wash skin with soap and water. In the case of skin irritation or allergic reactions see a

physician.

Ingestion Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms Prolonged contact may cause redness and irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

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

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the

chemical

No information available.

5.3. Advice for firefighters

Special protective equipment and

precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

6.2. Environmental precautions

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Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

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

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

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

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Acetic acid	TWA: 25 mg/m ³	TWA: 10 ppm	TWA: 10 ppm	TWA: 25 mg/m ³	TWA: 10 ppm
64-19-7	TWA: 10 ppm	TWA: 25 mg/m ³	TWA: 25 mg/m ³	TWA: 10 ppm	TWA: 25 mg/m ³
	STEL: 50 mg/m ³	STEL 20 ppm	STEL: 15 ppm	STEL: 50 mg/m ³	STEL: 20 ppm
	STEL: 20 ppm	STEL 50 mg/m ³	STEL: 38 mg/m ³	STEL: 20 ppm	STEL: 50 mg/m ³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Acetic acid	TWA: 10 ppm	TWA: 25 mg/m ³	TWA: 10 ppm	TWA: 10 ppm	TWA: 5 ppm
64-19-7	TWA: 25 mg/m ³	Ceiling: 50 mg/m ³	TWA: 25 mg/m ³	TWA: 25 mg/m ³	TWA: 13 mg/m ³
	STEL: 50 mg/m ³		STEL: 50 mg/m ³	STEL: 10 ppm	STEL: 10 ppm
	STEL: 20 ppm		STEL: 20 ppm	STEL: 25 mg/m ³	STEL: 25 mg/m ³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Acetic acid	TWA: 10 ppm	TWA: 10 ppm	TWA: 10 ppm	TWA: 10 ppm	TWA: 10 ppm
64-19-7	TWA: 25 mg/m ³	TWA: 25 mg/m ³	TWA: 25 mg/m ³	TWA: 25 mg/m ³	TWA: 25 mg/m ³
	STEL: 20 ppm		Peak: 20 ppm	STEL: 15 ppm	STEL: 20 ppm
	STEL: 50 mg/m ³		Peak: 50 mg/m ³	STEL: 37 mg/m ³	STEL: 50 mg/m ³
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Acetic acid	TWA: 20 ppm	TWA: 25 ppm	TWA: 10 ppm	TWA: 10 ppm	TWA: 10 ppm
64-19-7	TWA: 50 mg/m ³	TWA: 10 mg/m ³	TWA: 25 mg/m ³	TWA: 25 mg/m ³	TWA: 25 mg/m ³
	STEL: 20 ppm	STEL: 50 mg/m ³	STEL: 15 ppm	STEL: 50 mg/m ³	STEL: 50 mg/m ³
	STEL: 50 mg/m ³	STEL: 20 ppm	STEL: 37 mg/m ³	STEL: 20 ppm	STEL: 20 ppm
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Acetic acid	TWA: 10 ppm	TWA: 10 ppm	TWA: 10 ppm	TWA: 10 ppm	TWA: 25 mg/m ³
64-19-7	TWA: 25 mg/m ³	TWA: 25 mg/m ³	TWA: 25 mg/m ³	TWA: 25 mg/m ³	STEL: 50 mg/m ³

		L: 50 mg/m³ EL: 20 ppm	STEL: 20 ppm STEL: 50 mg/m ³	STEL: 20 ppm STEL: 50 mg/m ³	STEL:	: 20 ppm 50 mg/m³ A+	
Chemical name		Portugal	Romania	Slovakia	Slo	venia	Spain
Acetic acid	TV	/A: 10 ppm	TWA: 10 ppm	TWA: 10 ppm	TWA:	10 ppm	TWA: 10 ppm
64-19-7	TW	A: 25 mg/m ³	TWA: 25 mg/m ³	TWA: 25 mg/m ³	TWA:	25 mg/m ³	TWA: 25 mg/m ³
	ST	EL: 20 ppm	STEL: 20 ppm	Ceiling: 50 mg/m ³	STEL:	50 mg/m ³	STEL: 20 ppm
	STE	L: 50 mg/m ³	STEL: 50 mg/m ³		STEL	: 20 ppm	STEL: 50 mg/m ³
Chemical name		Sı	weden	Switzerland		Uni	ted Kingdom
Acetic acid		NG\	/: 5 ppm	TWA: 10 ppm		T۷	VA: 10 ppm
64-19-7	NGV:		13 mg/m ³	TWA: 25 mg/m	3	TW	'A: 25 mg/m ³
		Bindande	KGV: 10 ppm	STEL: 20 ppm		ST	EL: 20 ppm
		Bindande l	KGV: 25 mg/m ³	STEL: 50 mg/m	13	STE	EL: 50 mg/m ³

Biological occupational exposure limits

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

Derived No Effect Level (DNEL)
Predicted No Effect Concentration

No information available. No information available.

(PNEC)

8.2. Exposure controls

Personal Protective Equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves.

Skin and body protectionWear suitable protective clothing.

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.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid

Appearance Clear, colorless

Color No information available

Odor Characteristic.

Odor Threshold No information available

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

Melting point / freezing pointNo data availableNone knownBoiling point/boiling range (°C)No data availableNone knownFlammability (solid, gas)No data availableNone knownFlammability Limit in AirNone known

Upper flammability limit: No data available Lower flammability limit: No data available

Flash point No data available Open cup

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Autoignition temperature No data available None known

Decomposition temperatureNo data availableNone knownpHNo data availableNone known

pH (as aqueous solution)

No data available

No information available

No data available Kinematic viscosity None known **Dynamic Viscosity** No data available None known No data available Water solubility None known None known Solubility in other solvents No data available No data available None known **Partition coefficient** No data available None known Vapor pressure No data available None known

Relative densityNo data availableBulk DensityNo data availableLiquid DensityNo data available

Vapor density No data available None known

Particle characteristics

Particle Size No information available Particle Size Distribution No information available

9.2. Other information

9.2.1. Information with regard to physical hazard classes Not applicable

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion Data

Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoidNone known based on information supplied.

10.5. Incompatible materials

Incompatible materialsNone known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation 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 contact Specific test data for the substance or mixture is not available. Causes mild skin irritation.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Prolonged contact may cause redness and irritation.

Numerical measures of toxicity

Acute toxicity

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

 ATEmix (oral)
 220,482.90 mg/kg

 ATEmix (dermal)
 70,607.80 mg/kg

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

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Acetic acid	= 3310 mg/kg (Rat)	= 1060 mg/kg (Rabbit)	= 11.4 mg/L (Rat)4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritationClassification based on data available for ingredients. Causes mild skin irritation.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

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11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity

Contains 0.49875 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Acetic acid	_	LC50: =79mg/L (96h,	Inicroorganisms	EC50: =65mg/L (48h,
Acetic acid	_	Pimephales promelas)	-	
		,		Daphnia magna)
		LC50: =75mg/L (96h,		
		Lepomis macrochirus)		

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Acetic acid	-0.17

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

Chemical name	PBT and vPvB assessment		
Acetic acid	The substance is not PBT / vPvB		

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

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13.1. Waste treatment methods

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.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated

14.2 UN proper shipping name No information available

14.3 Transport hazard class(es)
 14.4 Packing group
 14.5 Environmental hazards
 Not regulated Not regulated Not applicable

14.6 Special precautions for user

Special Provisions None

<u>IMDG</u>

14.1 UN number or ID number Not regulated

14.2 UN proper shipping name No information available

14.3 Transport hazard class(es)
 14.4 Packing group
 14.5 Environmental hazards
 Not regulated Not regulated Not applicable

14.6 Special precautions for user

Special Provisions None

14.7 Maritime transport in bulk No information available

according to IMO instruments

RID

14.1 UN number or ID number Not regulated

14.2 UN proper shipping name No information available

14.3 Transport hazard class(es)
 14.4 Packing group
 14.5 Environmental hazards
 Not regulated
 Not applicable

14.6 Special precautions for user

Special Provisions None

<u>ADR</u>

14.1 UN number or ID number Not regulated

14.2 UN proper shipping name No information available

14.3 Transport hazard class(es)
 14.4 Packing group
 14.5 Environmental hazards
 Not regulated Not regulated Not applicable

14.6 Special precautions for user

Special Provisions None

SECTION 15: Regulatory information

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

National regulations

Germany

TA Luft (German Air Pollution Control Regulation)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

-	Chemical name	Restricted substance per REACH	Substance subject to authorization per
		Annex XVII	REACH Annex XIV
	Acetic acid - 64-19-7	75.	-

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

EU - Plant Protection Products (1107/2009/EC)

-	20 Tidil 1 Totobio 1 Todabio (1101/2000/20)				
	Chemical name	EU - Plant Protection Products (1107/2009/EC)			
ı	Acetic acid - 64-19-7	Plant protection agent			

Biocidal Products Regulation (EU) No 528/2012 (BPR)

Chemical name	Biocidal Products Regulation (EU) No 528/2012 (BPR)
Acetic acid - 64-19-7	Product-type 2: Disinfectants and algaecides not intended
	for direct application to humans or animals Simplified
	procedure - Category 1

International Inventories

TSCA DSL/NDSL EINECS/ELINCS ENCS IECSC KECL PICCS AICS -

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

15.2. Chemical safety assessment

Chemical Safety Assessment No information available

SECTION 16: Other information

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

Full text of H-Statements referred to under section 3

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H226 - Flammable liquid and vapor

H314 - Causes severe skin burns and eye damage

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA Time weighted average STEL Short term exposure limit

Ceiling Maximum limit value * Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

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 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)

U.S. 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

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

<u>Disclaimer</u>

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