

1. Chemical and company identification

Name of chemical (Product name) **Crosslink Reversal Buffer**

Supplier's company name, address and phone number

Company name TOMY Digital Bio
Address 2-9-1 Ikenohata
 Taito-Ku, Tokyo 110-0008
 Japan
Telephone (831) 713-4465
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Emergency phone number +1 760 476 3960
Access code 334943

Recommended use of the chemical and restrictions on use

Intended use Molecular Biology Kit.
Restrictions on use Use in accordance with manufacturer's recommendations.

2. Hazards identification

GHS classification

The product is not classified according to GHS.

GHS label elements

Pictograms None.
Signal words None.
Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.
Response Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.

Other hazards which do not result in classification None known.

Main symptoms and emergency overview

Main symptoms Direct contact with eyes may cause temporary irritation. May cause mild skin irritation upon prolonged and excessive contact.

3. Composition/information on ingredients

Substance or mixture Mixture

Chemical name or generic name	CAS Number	Gazette notification			Concentration (%)
		ENCS No.	ISHL No.		
Guanidinium chloride	50-01-1	(2)-1773	(2)-1773		≥7 - <9

Composition comments All concentrations are in percent by weight unless otherwise indicated. Components not listed are either non-hazardous or are below reportable limits.

4. First aid measures

If inhaled Move to fresh air. Call a physician if symptoms develop or persist.
If on skin Wash off with soap and water. Get medical attention if irritation develops and persists.
If in eyes Rinse with water. Get medical attention if irritation develops and persists.
If swallowed Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed Direct contact with eyes may cause temporary irritation. May cause mild skin irritation upon prolonged and excessive contact.
Protection of first-aid responders Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Notes to physician Treat symptomatically.

5. Fire-fighting measures

Extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Extinguishing media to avoid	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards	During fire, gases hazardous to health may be formed.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.
Protection of fire-fighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
General fire hazards	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
Methods and materials for containment and cleaning up	<p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>

7. Handling and storage

Handling	
Technical measures (e.g. Local and general ventilation)	No specific recommendations.
Safe handling advice	Observe good industrial hygiene practices.
Contact avoidance measures	Strong oxidising agents. For further information, please refer to section 10 of the SDS.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Storage	
Safe storage conditions	Store away from incompatible materials (see Section 10 of the SDS).
Safe packaging materials	Store in original tightly closed container.

8. Exposure controls/personal protection

Control parameters	Follow standard monitoring procedures.
Occupational exposure limits	No exposure limits noted for ingredient(s).
Engineering measures	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Personal protective equipment	
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Eye protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear suitable protective clothing.

9. Physical and chemical properties

Physical state	Liquid.
Form	Liquid.
Colour	Not available.
Odour	Not available.
Melting point/freezing point	Not available.
Boiling point, initial boiling point, and boiling range	Not available.

Combustibility	Not applicable.
Lower and upper explosion limit / flammability limit	
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Flash point	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
pH	Not available.
Kinematic viscosity	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water) (log value)	Not available.
Vapour pressure	Not available.
Density and/or relative density	
Density	Not available.
Relative density	Not available.
Vapour density	Not available.
Particle characteristics	Not available.
Other information	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidising agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Acute toxicity	Not expected to be acutely toxic.
Acute toxicity, inhalation	
Guanidinium chloride (CAS 50-01-1)	Category 4
Acute toxicity, oral	
Guanidinium chloride (CAS 50-01-1)	Category 4

Components	Species	Test Results
Guanidinium chloride (CAS 50-01-1)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
<i>Dust</i>		
LC50	Rat	3.181 mg/l, 4 Hours
Oral		
LD50	Rat	474.6 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
Guanidinium chloride (CAS 50-01-1)	Category 2	
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.	
Guanidinium chloride (CAS 50-01-1)	Category 2	
Respiratory or skin sensitisation		
Respiratory sensitisation	Not a respiratory sensitiser.	

Skin sensitisation	This product is not expected to cause skin sensitisation.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Guanidinium chloride (CAS 50-01-1)	
	Category 3 respiratory tract irritation
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulation	No data available.
Mobility in soil	No data available for this product.
Hazardous to the ozone layer	No data available.
Other hazardous effects	No data available.

13. Disposal considerations

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Local disposal regulations	Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

14. Transport information

IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.
National regulations	Follow regulation in section 15 for domestic transportation.

15. Regulatory information

Industrial Safety and Health Act	
Notifiable substances	Not regulated.
Labeling substances	Not regulated.
Poisonous and Deleterious Substances Control Act	
Specified poisonous substances	Not regulated.
Poisonous substances	Not regulated.
Deleterious substances	Not regulated.
Act on the Regulation of Manufacture and Evaluation of Chemical Substances	
Class I specified chemical substances	Not regulated.
Class II specified chemical substances	Not regulated.
Monitoring chemical substances	Not regulated.

Priority Assessment Chemical Substances (PACs)

Not regulated.

Law concerning Pollutant Release and Transfer Register

Specified class 1 substances (substance name, ordinance number and content)

Not regulated.

Class 1 substances (substance name, ordinance number and content)

Not regulated.

Class 2 substances (substance name, ordinance number and content)

Not regulated.

Fire Service Act

Not dangerous goods under Fire Service Law

Ship Safety Law, Dangerous Goods Marine Transport and Storage Rule

Not regulated.

Air Law, Enforcement Rule

Not regulated.

Explosives Control Act

Not regulated.

16. Other information

Bibliography

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
Japan Chemical Industry Association (JCIA) GHS Guideline, June 2019
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits
JIS Z 7252:2019 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"
JIS Z 7253:2019 Hazard communication of chemicals based on GHS - Labelling and Safety Data Sheet (SDS)
National Toxicology Program (NTP) Report on Carcinogens

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