



## **MATERIAL SAFETY DATA SHEET**

QuickGene RNA tissue kit SII

**MSDS\_LRT01\_01E**

**MSDS\_SRT01\_01E**

**MSDS\_WRT02\_01E**

**MSDS\_CRT01\_01E**

**KURABO INDUSTRIES LTD.**

**Bio-Medical Department**

<b>Address</b>	Neyagawa Techno Center 3F 14-5 Shimokida-Cho, Neyagawa, Osaka 572-0823, Japan
<b>Telephone Number</b>	+81-72-820-3079
<b>FAX Number</b>	+81-72-820-3095



## MATERIAL SAFETY DATA SHEET

### 1. Chemical product and company identification

<b>Product name</b>	Lysis Buffer LRT-01
<b>Product usage</b>	QuickGene RNA tissue kit: Lysis Buffer
<b>Company Name</b>	KURABO INDUSTRIES LTD.
<b>Division</b>	Bio-Medical Department
<b>Address</b>	Neyagawa Techno Center 3F 14-5 Shimokida-Cho, Neyagawa, Osaka 572-0823, Japan
<b>Telephone Number</b>	+81-72-820-3079
<b>FAX Number</b>	+81-72-820-3095
<b>Reference file name</b>	MSDS_LRT01_01E

### 2. Hazards identification

#### GHS-classification

<b>Health hazards</b>	Acute toxicity (Oral)	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2

\*Degree of Hazards: Smaller category number is more hazardous.

\*Hazards not stated here are "Not applicable" or "Classification not possible".

#### GHS label elements

##### Symbol



##### Signal word

Warning

##### Hazard statement

Harmful if swallowed. (Category 4)  
Causes skin irritation. (Category 2)  
Causes serious eye irritation. (Category 2)

#### Precautionary statements

##### Prevention

Wear eye/face protection. Wear protective gloves. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

##### Response

IF SWALLOWED: Call a doctor/physician if you feel unwell. Rinse mouth.  
IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

##### Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

#### National/local information

See Section 15. REGULATORY INFORMATION

### 3. Composition/information on ingredients

**Substance or Mixture** Mixture

#### Gazette notification

Components	CAS #	ENCS no.	ISHL no.	Concentration (%)
water	7732-18-5	---		50 - 70
guanidinium thiocyanate	593-84-0	2-1773		30 - 50
amino alcohol	---			1 - 5
hydrochloride salts of aminoalcohol	---			1 - 5

**Chemical formula** H<sub>2</sub>O (7732-18-5), CH<sub>5</sub>N<sub>3</sub>.CHNS (593-84-0)

(\*) Generally chemical substances greater than 1% of the total are listed.

Note: The notes / remarks within the brackets [ ] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated as Class 1 Chemical substances in the same Law.

"PRTR 2" : Chemical substances that are designated as Class 2 Chemical substances in the same Law.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

#### 4. First aid measures

<b>In case of inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician.
<b>Skin contact</b>	Remove contaminated clothing. Wash off with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Ingestion</b>	Rinse mouth. Call a doctor/physician if you feel unwell.
<b>Protection of first-aid responders</b>	Rescuers should wear proper personal protective equipment suitable for situation.

#### 5. Fire-fighting measures

<b>Extinguishing media</b>	Carbon dioxide, dry chemical and protein based foam.
<b>Extinguishing media to avoid</b>	None.
<b>Special fire fighting Procedures</b>	Keep personnel removed from and upwind of fire. Water runoff can damage the environment. Dike and collect water used to fight fire Evacuate area and fight fire from a safe distance.
<b>Protection of fire-fighters</b>	Wear adequate personal protective equipment.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency measures</b>	Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
<b>Environmental precautions</b>	Prevent from entering into soil, waterways and ground water.
<b>Clean-up methods and materials and containment measures</b>	Spills should be contained by, and covered with suitable absorbent material and removed for disposal

#### 7. Handling and storage

<b>Handling</b>	
<b>Technical measures</b>	Avoid contact with skin, eyes and clothing. Wash hands after handling.
<b>Local and general ventilation</b>	Use only with adequate ventilation.
<b>Precautions</b>	See Section 8 (Exposure Controls/Personal Protection).
<b>Safe handling advice</b>	See Section 10 (Stability and reactivity).
<b>Storage</b>	
<b>Suitable storage conditions</b>	Protect from sunlight. Keep container tightly closed.
<b>Safe packaging materials</b>	Use plastic container that have enough toughness.

#### 8. Exposure controls/personal protection

<b>Engineering measures</b>	Evacuate and ventilate spill area. Provide easy access to water supply and eye wash facilities.
<b>Personal protective equipment</b>	
<b>Respiratory protection</b>	Wear suitable respiratory protection.
<b>Hand protection</b>	Wear suitable gloves.
<b>Eye protection</b>	Use eye protection. Use face shield in case of splash risk.

<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Hygiene measures</b>	When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

<b>Form</b>	Clear liquid
<b>Color</b>	Transparent colourless
<b>Odor</b>	Odourless
<b>pH</b>	6.5 Approx.
<b>Melting point/Freezing point</b>	No data available.
<b>Boiling point, initial boiling point, and boiling range</b>	No data available.
<b>Flash point</b>	Not flammable
<b>Auto-ignition temperature</b>	Not flammable.
<b>Flammability limit - lower (%)</b>	No data available.
<b>Flammability limit - upper (%)</b>	No data available.
<b>Vapor pressure</b>	No data available.
<b>Vapor density</b>	No data available.
<b>Specific gravity</b>	No data available.
<b>Solubility (water)</b>	Completely soluble
<b>Partition coefficient (n-octanol/water)</b>	No data available.
<b>Decomposition temperature</b>	No data available.

## 10. Stability and reactivity

<b>Stability</b>	Stable at normal conditions.
<b>Possibility of hazardous reactions</b>	None.
<b>Conditions to avoid</b>	Freezing. Protect against direct sunlight.
<b>Incompatible materials</b>	None.
<b>Hazardous decomposition products</b>	CO,CO2 Nitrogen oxides (NOx).

## 11. Toxicological information

<b>Test Results</b>	Acute Oral LD50 Rat: > 500 mg/kg
<b>Skin corrosion/irritation</b>	moderate
<b>Serious eye damage/eye irritation</b>	May cause slight transient (temporary) eye irritation.
<b>Carcinogenicity</b>	Substances in group [1;2A;2B] by IARC (International Agency for Research on Cancer):None

## 12. Ecological information

<b>Bioaccumulation</b>	Not established.
<b>Mobility in soil</b>	Not established.
<b>Other hazardous effects</b>	Not established

## 13. Disposal considerations

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. Follow the laws and regulations in your country while disposing of this product or waste.

## 14. Transport information

Marine transportation is regulated by IMDG Code. Air transportation is regulated by IATA Dangerous Goods Regulations.

----- Information for marine and air transportation to be passed to the shipping company -----

### IMDG

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

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## 15. Regulatory information

### Law concerning the Examination and Regulation of Manufacture etc. of Chemical Substances

Class 1 Specified Chemical Substance:	Not regulated.
Class 2 Specified Chemical Substance:	Not regulated.
Type 1 Monitoring Chemical Substance:	Not regulated.
Type 2 Monitoring Chemical Substance:	Not regulated.
Type 3 Monitoring Chemical Substance:	Not regulated.

### Industrial Safety and Health Law

Dangerous Substances Flammable:	Not regulated.
Dangerous Substances Flammable Gases:	Not regulated.
Dangerous Substances Oxidizing:	Not regulated.
Dangerous Substances Explosives:	Not regulated.
Dangerous Substances Ignitable:	Not regulated.
Harmful Substances Carcinogen:	Not regulated.
Class 1 Designated Chemical Substances:	Not regulated.
Class 2 Designated Chemical Substances:	Not regulated.
Class 3 Designated Chemical Substances:	Not regulated.
Class 1 Organic Solvents Preparations:	Not regulated.
Class 2 Organic Solvents Preparations:	Not regulated.
Class 3 Organic Solvents Preparations:	Not regulated.
Notifiable Substance:	Not regulated.
Labeling Requirements:	Not regulated.
Others:	Not regulated.

### Poisonous and Deleterious Substances Control Law

Specified Poisonous Substance - Main Law:	Not regulated.
Specified Poisonous Substance - Cabinet Order:	Not regulated.
Poisonous Substances - Main Law:	Not regulated.
Poisonous Substances - Cabinet Order:	Not regulated.
Deleterious Substances - Main Law:	Not regulated.
Deleterious Substances - Cabinet Order:	Not regulated.
Enforcement Order Article 32-2:	Not regulated.
Enforcement Order Article 32-3:	Not regulated.
Not Considered Poisonous:	Not regulated.
Not Considered Deleterious:	Not regulated.
Cabinet Order, Preparations:	

### Fire Service Law

Class 1 Oxidizing Solids:	Not regulated.
Class 2 Flammable Solids:	Not regulated.
Class 3 Spontaneous combustibility and Water-reactivity Substances:	Not regulated.
Class 4 Flammable Liquids:	Not regulated.

<b>Class 5 Self-Reactive Substances:</b>	Not regulated.
<b>Class 6 Oxidizing Liquids:</b>	Not regulated.
<b>Designated Flammable Substances:</b>	Not regulated.
<b>Storage Reporting Substance:</b>	Not regulated.
<b>Japan PRTR</b>	
<b>Specific Class 1 Designated Substance:</b>	Not regulated.
<b>Class 1 Designated Substance:</b>	Not regulated.
<b>Class 2 Designated Substance:</b>	Not regulated.
<b>Ship Safety Law</b>	Not regulated.
<b>Civil Aeronautics law</b>	Not regulated.
<b>Japan Marine Pollution Prevention Law</b>	Not regulated.
<b>High Pressure Gas Safety law</b>	Not regulated.
<b>Gun Powder Control Law</b>	Not regulated.

## 16. Other information

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment. This MSDS is prepared according to the MSDS guideline of Japan Chemical Industry Association based on JIS Z7250:2005.



## MATERIAL SAFETY DATA SHEET

### 1. Chemical product and company identification

<b>Product name</b>	<b>Solubilization Buffer SRT-01</b>
<b>Product usage</b>	QuickGene RNA tissue kit: Solubilization Buffer
<b>Company Name</b>	KURABO INDUSTRIES LTD.
<b>Division</b>	Bio-Medical Department
<b>Address</b>	Neyagawa Techno Center 3F 14-5 Shimokida-Cho, Neyagawa, Osaka 572-0823, Japan
<b>Telephone Number</b>	+81-72-820-3079
<b>FAX Number</b>	+81-72-820-3095
<b>Reference file name</b>	MSDS_SRT01_01E

### 2. Hazards identification

#### GHS-classification

<b>Health hazards</b>	Acute toxicity (Oral)	Not classified
	Skin corrosion/irritation	Not classified
	Serious eye damage/eye irritation	Not classified

\*Degree of Hazards: Smaller category number is more hazardous.

No hazards resulting from the material as supplied.

**National/local information** See Section 15. REGULATORY INFORMATION

### 3. Composition/information on ingredients

**Substance or Mixture** Mixture

#### Gazette notification

Components	CAS #	ENCS no.	ISHL no.	Concentration (%)
water	7732-18-5	----		70 - 90
polyoxyethylene sorbitan fatty acid ester	---			10 - 20
hydrochloride salts of aminoalcohol	---			1 - 5
<b>Chemical formula</b>	H <sub>2</sub> O (7732-18-5)			

(\*) Generally chemical substances greater than 1% of the total are listed.

Note: The notes / remarks within the brackets [ ] following the chemical substance names are used to communicate the following indications:

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"PRTR 1" : Chemical substances that are designated as Class 1 Chemical substances in the same Law.

"PRTR 2" : Chemical substances that are designated as Class 2 Chemical substances in the same Law.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

### 4. First aid measures

<b>In case of inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician.
<b>Skin contact</b>	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if any discomfort continues.
<b>Protection of first-aid responders</b>	Rescuers should wear proper personal protective equipment suitable for situation.

## 5. Fire-fighting measures

<b>Extinguishing media</b>	Carbon dioxide, dry chemical and protein based foam.
<b>Extinguishing media to avoid</b>	None.
<b>Special fire fighting Procedures</b>	Keep personnel removed from and upwind of fire. Water runoff can damage the environment. Dike and collect water used to fight fire Evacuate area and fight fire from a safe distance.
<b>Protection of fire-fighters</b>	Wear adequate personal protective equipment.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency measures</b>	Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
<b>Environmental precautions</b>	Prevent from entering into soil, waterways and ground water.
<b>Clean-up methods and materials and containment measures</b>	Spills should be contained by, and covered with suitable absorbent material and removed for disposal

## 7. Handling and storage

<b>Handling</b>	
<b>Technical measures</b>	Avoid contact with skin, eyes and clothing. Wash hands after handling.
<b>Local and general ventilation</b>	Use only with adequate ventilation.
<b>Precautions</b>	See Section 8 (Exposure Controls/Personal Protection).
<b>Safe handling advice</b>	See Section 10 (Stability and reactivity).
<b>Storage</b>	
<b>Suitable storage conditions</b>	Protect from sunlight. Keep container tightly closed.
<b>Safe packaging materials</b>	Use plastic container that have enough toughness.

## 8. Exposure controls/personal protection

<b>Engineering measures</b>	Evacuate and ventilate spill area. Provide easy access to water supply and eye wash facilities.
<b>Personal protective equipment</b>	
<b>Respiratory protection</b>	Wear suitable respiratory protection.
<b>Hand protection</b>	Wear suitable gloves.
<b>Eye protection</b>	Use eye protection. Use face shield in case of splash risk.
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Appearance</b>	
<b>Form</b>	Clear liquid
<b>Color</b>	Colourless to light yellow
<b>Odor</b>	Practically odourless
<b>pH</b>	6 Approx.
<b>Melting point/Freezing point</b>	No data available.
<b>Boiling point, initial boiling point, and boiling range</b>	No data available.
<b>Flash point</b>	Not flammable
<b>Auto-ignition temperature</b>	Not flammable.
<b>Flammability limit - lower (%)</b>	No data available.
<b>Flammability limit - upper (%)</b>	No data available.
<b>Vapor pressure</b>	No data available.
<b>Vapor density</b>	No data available.
<b>Specific gravity</b>	No data available.



<b>Solubility (water)</b>	Completely soluble
<b>Partition coefficient (n-octanol/water)</b>	No data available.
<b>Decomposition temperature</b>	No data available.

## 10. Stability and reactivity

<b>Stability</b>	Stable at normal conditions.
<b>Possibility of hazardous reactions</b>	None.
<b>Conditions to avoid</b>	Freezing. Protect against direct sunlight.
<b>Incompatible materials</b>	None.
<b>Hazardous decomposition products</b>	CO,CO2 Nitrogen oxides (NOx).

## 11. Toxicological information

<b>Test Results</b>	Acute Oral LD50 Rat: > 2000 mg/kg
<b>Skin corrosion/irritation</b>	No irritation
<b>Serious eye damage/eye irritation</b>	non irritant
<b>Carcinogenicity</b>	Substances in group [1;2A;2B] by IARC (International Agency for Research on Cancer):None

## 12. Ecological information

<b>Bioaccumulation</b>	Not established.
<b>Mobility in soil</b>	Not established.
<b>Other hazardous effects</b>	Not established

## 13. Disposal considerations

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. Follow the laws and regulations in your country while disposing of this product or waste.

## 14. Transport information

Marine transportation is regulated by IMDG Code. Air transportation is regulated by IATA Dangerous Goods Regulations.

----- Information for marine and air transportation to be passed to the shipping company -----

### IMDG

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

**Emergency Response Guide Number** 171

## 15. Regulatory information

### Law concerning the Examination and Regulation of Manufacture etc. of Chemical Substances

<b>Class 1 Specified Chemical Substance:</b>	Not regulated.
<b>Class 2 Specified Chemical Substance:</b>	Not regulated.
<b>Type 1 Monitoring Chemical Substance:</b>	Not regulated.
<b>Type 2 Monitoring Chemical Substance:</b>	Not regulated.
<b>Type 3 Monitoring Chemical Substance:</b>	Not regulated.

### Industrial Safety and Health Law

<b>Dangerous Substances Flammable:</b>	Not regulated.
<b>Dangerous Substances Flammable Gases:</b>	Not regulated.
<b>Dangerous Substances Oxidizing:</b>	Not regulated.
<b>Dangerous Substances Explosives:</b>	Not regulated.
<b>Dangerous Substances Ignitable:</b>	Not regulated.

<b>Harmful Substances Carcinogen:</b>	Not regulated.
<b>Class 1 Designated Chemical Substances:</b>	Not regulated.
<b>Class 2 Designated Chemical Substances:</b>	Not regulated.
<b>Class 3 Designated Chemical Substances:</b>	Not regulated.
<b>Class 1 Organic Solvents Preparations:</b>	Not regulated.
<b>Class 2 Organic Solvents Preparations:</b>	Not regulated.
<b>Class 3 Organic Solvents Preparations:</b>	Not regulated.
<b>Notifiable Substance:</b>	Not regulated.
<b>Labeling Requirements:</b>	Not regulated.
<b>Others:</b>	Not regulated.
<b>Poisonous and Deleterious Substances Control Law</b>	
<b>Specified Poisonous Substance - Main Law:</b>	Not regulated.
<b>Specified Poisonous Substance - Cabinet Order:</b>	Not regulated.
<b>Poisonous Substances - Main Law:</b>	Not regulated.
<b>Poisonous Substances - Cabinet Order:</b>	Not regulated.
<b>Deleterious Substances - Main Law:</b>	Not regulated.
<b>Deleterious Substances - Cabinet Order:</b>	Not regulated.
<b>Enforcement Order Article 32-2:</b>	Not regulated.
<b>Enforcement Order Article 32-3:</b>	Not regulated.
<b>Not Considered Poisonous:</b>	Not regulated.
<b>Not Considered Deleterious:</b>	Not regulated.
<b>Cabinet Order, Preparations:</b>	
<b>Fire Service Law</b>	
<b>Class 1 Oxidizing Solids:</b>	Not regulated.
<b>Class 2 Flammable Solids:</b>	Not regulated.
<b>Class 3 Spontaneous combustibility and Water-reactivity Substances:</b>	Not regulated.
<b>Class 4 Flammable Liquids:</b>	Not regulated.
<b>Class 5 Self-Reactive Substances:</b>	Not regulated.
<b>Class 6 Oxidizing Liquids:</b>	Not regulated.
<b>Designated Flammable Substances:</b>	Not regulated.
<b>Storage Reporting Substance:</b>	Not regulated.
<b>Japan PRTR</b>	
<b>Specific Class 1 Designated Substance:</b>	Not regulated.
<b>Class 1 Designated Substance:</b>	Not regulated.
<b>Class 2 Designated Substance:</b>	Not regulated.
<b>Ship Safety Law</b>	Not regulated.
<b>Civil Aeronautics law</b>	Not regulated.
<b>Japan Marine Pollution Prevention Law</b>	Not regulated.
<b>High Pressure Gas Safety law</b>	Not regulated.
<b>Gun Powder Control Law</b>	Not regulated.

## 16. Other information

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment. This MSDS is prepared according to the MSDS guideline of Japan Chemical Industry Association based on JIS Z7250:2005.



## MATERIAL SAFETY DATA SHEET

### 1. Chemical product and company identification

<b>Product name</b>	Wash Buffer WRT-02
<b>Product usage</b>	QuickGene RNA tissue kit SII: Wash Buffer
<b>Company Name</b>	KURABO INDUSTRIES LTD.
<b>Division</b>	Bio-Medical Department
<b>Address</b>	Neyagawa Techno Center 3F 14-5 Shimokida-Cho, Neyagawa, Osaka 572-0823, Japan
<b>Telephone Number</b>	+81-72-820-3079
<b>FAX Number</b>	+81-72-820-3095
<b>Reference file name</b>	MSDS_WRT02_01E

### 2. Hazards identification

#### GHS-classification

<b>Health hazards</b>	Acute toxicity (Oral)	Not classified
	Skin corrosion/irritation	Not classified
	Serious eye damage/eye irritation	Not classified

\*Degree of Hazards: Smaller category number is more hazardous.

No hazards resulting from the material as supplied.

**National/local information** See Section 15. REGULATORY INFORMATION

### 3. Composition/information on ingredients

**Substance or Mixture** Mixture

#### Gazette notification

Components	CAS #	ENCS no.	ISHL no.	Concentration (%)
water	7732-18-5	----		80 - 100
sodium chloride	7647-14-5	1-236	(1)-236	1 - 5

**Chemical formula** H<sub>2</sub>O (7732-18-5), NaCl (7647-14-5)

(\*) Generally chemical substances greater than 1% of the total are listed.

Note: The notes / remarks within the brackets [ ] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated as Class 1 Chemical substances in the same Law.

"PRTR 2" : Chemical substances that are designated as Class 2 Chemical substances in the same Law.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

### 4. First aid measures

<b>In case of inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician.
<b>Skin contact</b>	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if any discomfort continues.
<b>Protection of first-aid responders</b>	Rescuers should wear proper personal protective equipment suitable for situation.

## 5. Fire-fighting measures

<b>Extinguishing media</b>	Carbon dioxide, dry chemical and protein based foam.
<b>Extinguishing media to avoid</b>	None.
<b>Special fire fighting Procedures</b>	Keep personnel removed from and upwind of fire. Water runoff can damage the environment. Dike and collect water used to fight fire Evacuate area and fight fire from a safe distance.
<b>Protection of fire-fighters</b>	Wear adequate personal protective equipment.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency measures</b>	Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
<b>Environmental precautions</b>	Prevent from entering into soil, waterways and ground water.
<b>Clean-up methods and materials and containment measures</b>	Spills should be contained by, and covered with suitable absorbent material and removed for disposal

## 7. Handling and storage

<b>Handling</b>	
<b>Technical measures</b>	Avoid contact with skin, eyes and clothing. Wash hands after handling.
<b>Local and general ventilation</b>	Use only with adequate ventilation.
<b>Precautions</b>	See Section 8 (Exposure Controls/Personal Protection).
<b>Safe handling advice</b>	See Section 10 (Stability and reactivity).
<b>Storage</b>	
<b>Suitable storage conditions</b>	Protect from sunlight. Keep container tightly closed.
<b>Safe packaging materials</b>	Use plastic container that have enough toughness.

## 8. Exposure controls/personal protection

<b>Engineering measures</b>	Evacuate and ventilate spill area. Provide easy access to water supply and eye wash facilities.
<b>Personal protective equipment</b>	
<b>Respiratory protection</b>	Wear suitable respiratory protection.
<b>Hand protection</b>	Wear suitable gloves.
<b>Eye protection</b>	Use eye protection. Use face shield in case of splash risk.
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Appearance</b>	
<b>Form</b>	Aqueous solution
<b>Color</b>	Transparent colourless
<b>Odor</b>	Odourless
<b>pH</b>	7.6 Approx. ; 25°C
<b>Melting point/Freezing point</b>	No data available.
<b>Boiling point, initial boiling point, and boiling range</b>	No data available.
<b>Flash point</b>	Not flammable
<b>Auto-ignition temperature</b>	Not flammable.
<b>Flammability limit - lower (%)</b>	No data available.
<b>Flammability limit - upper (%)</b>	No data available.
<b>Vapor pressure</b>	No data available.
<b>Vapor density</b>	No data available.
<b>Specific gravity</b>	No data available.

<b>Solubility (water)</b>	Completely soluble
<b>Partition coefficient (n-octanol/water)</b>	No data available.
<b>Decomposition temperature</b>	No data available.

## 10. Stability and reactivity

<b>Stability</b>	Stable at normal conditions.
<b>Possibility of hazardous reactions</b>	None.
<b>Conditions to avoid</b>	Freezing. Protect against direct sunlight.
<b>Incompatible materials</b>	None.
<b>Hazardous decomposition products</b>	CO,CO2 Nitrogen oxides (NOx).

## 11. Toxicological information

<b>Test Results</b>	Acute Oral LD50 Rat: > 2000 mg/kg
<b>Skin corrosion/irritation</b>	No irritation
<b>Serious eye damage/eye irritation</b>	non irritant
<b>Carcinogenicity</b>	Substances in group [1;2A;2B] by IARC (International Agency for Research on Cancer):None

## 12. Ecological information

<b>Bioaccumulation</b>	Not established.
<b>Mobility in soil</b>	Not established.
<b>Other hazardous effects</b>	Not established

## 13. Disposal considerations

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. Follow the laws and regulations in your country while disposing of this product or waste.

## 14. Transport information

Marine transportation is regulated by IMDG Code. Air transportation is regulated by IATA Dangerous Goods Regulations.

----- Information for marine and air transportation to be passed to the shipping company -----

### IMDG

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

## 15. Regulatory information

### Law concerning the Examination and Regulation of Manufacture etc. of Chemical Substances

<b>Class 1 Specified Chemical Substance:</b>	Not regulated.
<b>Class 2 Specified Chemical Substance:</b>	Not regulated.
<b>Type 1 Monitoring Chemical Substance:</b>	Not regulated.
<b>Type 2 Monitoring Chemical Substance:</b>	Not regulated.
<b>Type 3 Monitoring Chemical Substance:</b>	Not regulated.

### Industrial Safety and Health Law

<b>Dangerous Substances Flammable:</b>	Not regulated.
<b>Dangerous Substances Flammable Gases:</b>	Not regulated.
<b>Dangerous Substances Oxidizing:</b>	Not regulated.
<b>Dangerous Substances Explosives:</b>	Not regulated.
<b>Dangerous Substances Ignitable:</b>	Not regulated.
<b>Harmful Substances Carcinogen:</b>	Not regulated.

<b>Class 1 Designated Chemical Substances:</b>	Not regulated.
<b>Class 2 Designated Chemical Substances:</b>	Not regulated.
<b>Class 3 Designated Chemical Substances:</b>	Not regulated.
<b>Class 1 Organic Solvents Preparations:</b>	Not regulated.
<b>Class 2 Organic Solvents Preparations:</b>	Not regulated.
<b>Class 3 Organic Solvents Preparations:</b>	Not regulated.
<b>Notifiable Substance:</b>	Not regulated.
<b>Labeling Requirements:</b>	Not regulated.
<b>Others:</b>	Not regulated.

**Poisonous and Deleterious Substances Control Law**

<b>Specified Poisonous Substance - Main Law:</b>	Not regulated.
<b>Specified Poisonous Substance - Cabinet Order:</b>	Not regulated.
<b>Poisonous Substances - Main Law:</b>	Not regulated.
<b>Poisonous Substances - Cabinet Order:</b>	Not regulated.
<b>Deleterious Substances - Main Law:</b>	Not regulated.
<b>Deleterious Substances - Cabinet Order:</b>	Not regulated.
<b>Enforcement Order Article 32-2:</b>	Not regulated.
<b>Enforcement Order Article 32-3:</b>	Not regulated.
<b>Not Considered Poisonous:</b>	Not regulated.
<b>Not Considered Deleterious:</b>	Not regulated.
<b>Cabinet Order, Preparations:</b>	

**Fire Service Law**

<b>Class 1 Oxidizing Solids:</b>	Not regulated.
<b>Class 2 Flammable Solids:</b>	Not regulated.
<b>Class 3 Spontaneous combustibility and Water-reactivity Substances:</b>	Not regulated.
<b>Class 4 Flammable Liquids:</b>	Not regulated.
<b>Class 5 Self-Reactive Substances:</b>	Not regulated.
<b>Class 6 Oxidizing Liquids:</b>	Not regulated.
<b>Designated Flammable Substances:</b>	Not regulated.
<b>Storage Reporting Substance:</b>	Not regulated.

**Japan PRTR**

<b>Specific Class 1 Designated Substance:</b>	Not regulated.
<b>Class 1 Designated Substance:</b>	Not regulated.
<b>Class 2 Designated Substance:</b>	Not regulated.

**Ship Safety Law**

Not regulated.

**Civil Aeronautics law**

Not regulated.

**Japan Marine Pollution**

Not regulated.

**Prevention Law****High Pressure Gas Safety law**

Not regulated.

**Gun Powder Control Law**

Not regulated.

**16. Other information**

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment. This MSDS is prepared according to the MSDS guideline of Japan Chemical Industry Association based on JIS Z7250:2005.



## MATERIAL SAFETY DATA SHEET

### 1. Chemical product and company identification

<b>Product name</b>	<b>Elution Buffer CRT-01</b>
<b>Product usage</b>	QuickGene RNA tissue kit: Elution Buffer
<b>Company Name</b>	KURABO INDUSTRIES LTD.
<b>Division</b>	Bio-Medical Department
<b>Address</b>	Neyagawa Techno Center 3F 14-5 Shimokida-Cho, Neyagawa, Osaka 572-0823, Japan
<b>Telephone Number</b>	+81-72-820-3079
<b>FAX Number</b>	+81-72-820-3095
<b>Reference file name</b>	MSDS_CRT01_01E

### 2. Hazards identification

#### GHS-classification

<b>Health hazards</b>	Acute toxicity (Oral)	Not classified
	Skin corrosion/irritation	Not classified
	Serious eye damage/eye irritation	Not classified

\*Degree of Hazards: Smaller category number is more hazardous.

No hazards resulting from the material as supplied.

**National/local information** See Section 15. REGULATORY INFORMATION

### 3. Composition/information on ingredients

**Substance or Mixture** Mixture

#### Gazette notification

<b>Components</b>	<b>CAS #</b>	<b>ENCS no.</b>	<b>ISHL no.</b>	<b>Concentration (%)</b>
water	7732-18-5	----		80 - 100

**Chemical formula** H<sub>2</sub>O (7732-18-5)

(\*) Generally chemical substances greater than 1% of the total are listed.

Note: The notes / remarks within the brackets [ ] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated as Class 1 Chemical substances in the same Law.

"PRTR 2" : Chemical substances that are designated as Class 2 Chemical substances in the same Law.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

### 4. First aid measures

<b>In case of inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician.
<b>Skin contact</b>	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if any discomfort continues.
<b>Protection of first-aid responders</b>	Rescuers should wear proper personal protective equipment suitable for situation.

## 5. Fire-fighting measures

<b>Extinguishing media</b>	Carbon dioxide, dry chemical and protein based foam.
<b>Extinguishing media to avoid</b>	None.
<b>Special fire fighting Procedures</b>	Keep personnel removed from and upwind of fire. Water runoff can damage the environment. Dike and collect water used to fight fire Evacuate area and fight fire from a safe distance.
<b>Protection of fire-fighters</b>	Wear adequate personal protective equipment.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency measures</b>	Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
<b>Environmental precautions</b>	Prevent from entering into soil, waterways and ground water.
<b>Clean-up methods and materials and containment measures</b>	Spills should be contained by, and covered with suitable absorbent material and removed for disposal

## 7. Handling and storage

<b>Handling</b>	
<b>Technical measures</b>	Avoid contact with skin, eyes and clothing. Wash hands after handling.
<b>Local and general ventilation</b>	Use only with adequate ventilation.
<b>Precautions</b>	See Section 8 (Exposure Controls/Personal Protection).
<b>Safe handling advice</b>	See Section 10 (Stability and reactivity).
<b>Storage</b>	
<b>Suitable storage conditions</b>	Protect from sunlight. Keep container tightly closed.
<b>Safe packaging materials</b>	Use plastic container that have enough toughness.

## 8. Exposure controls/personal protection

<b>Engineering measures</b>	Evacuate and ventilate spill area. Provide easy access to water supply and eye wash facilities.
<b>Personal protective equipment</b>	
<b>Respiratory protection</b>	Wear suitable respiratory protection.
<b>Hand protection</b>	Wear suitable gloves.
<b>Eye protection</b>	Use eye protection. Use face shield in case of splash risk.
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Appearance</b>	
<b>Form</b>	Aqueous solution
<b>Color</b>	Transparent colourless
<b>Odor</b>	Odourless
<b>pH</b>	6.5
<b>Melting point/Freezing point</b>	No data available.
<b>Boiling point, initial boiling point, and boiling range</b>	No data available.
<b>Flash point</b>	Not flammable
<b>Auto-ignition temperature</b>	Not flammable.
<b>Flammability limit - lower (%)</b>	No data available.
<b>Flammability limit - upper (%)</b>	No data available.
<b>Vapor pressure</b>	No data available.
<b>Vapor density</b>	No data available.
<b>Specific gravity</b>	No data available.



<b>Solubility (water)</b>	Completely soluble
<b>Partition coefficient (n-octanol/water)</b>	No data available.
<b>Decomposition temperature</b>	No data available.
<b>Viscosity</b>	Like water

## 10. Stability and reactivity

<b>Stability</b>	Stable at normal conditions.
<b>Possibility of hazardous reactions</b>	None.
<b>Conditions to avoid</b>	Freezing. Protect against direct sunlight.
<b>Incompatible materials</b>	None.
<b>Hazardous decomposition products</b>	CO,CO2 Nitrogen oxides (NOx).

## 11. Toxicological information

<b>Test Results</b>	Acute Oral LD50 Rat: > 2000 mg/kg
<b>Skin corrosion/irritation</b>	No irritation
<b>Serious eye damage/eye irritation</b>	non irritant
<b>Carcinogenicity</b>	Substances in group [1;2A;2B] by IARC (International Agency for Research on Cancer):None

## 12. Ecological information

<b>Bioaccumulation</b>	Not established.
<b>Mobility in soil</b>	Not established.
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<b>Labeling Requirements:</b>	Not regulated.
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<b>Not Considered Deleterious:</b>	Not regulated.
<b>Cabinet Order, Preparations:</b>	
<b>Fire Service Law</b>	
<b>Class 1 Oxidizing Solids:</b>	Not regulated.
<b>Class 2 Flammable Solids:</b>	Not regulated.
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<b>Designated Flammable Substances:</b>	Not regulated.
<b>Storage Reporting Substance:</b>	Not regulated.
<b>Japan PRTR</b>	
<b>Specific Class 1 Designated Substance:</b>	Not regulated.
<b>Class 1 Designated Substance:</b>	Not regulated.
<b>Class 2 Designated Substance:</b>	Not regulated.
<b>Ship Safety Law</b>	Not regulated.
<b>Civil Aeronautics law</b>	Not regulated.
<b>Japan Marine Pollution Prevention Law</b>	Not regulated.
<b>High Pressure Gas Safety law</b>	Not regulated.
<b>Gun Powder Control Law</b>	Not regulated.

## 16. Other information

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