

**Trade name:** RNA Separation buffer

**Product no.:** 292-27914-94

**Current version :** 1.0.1, issued: 02.09.2014

**Replaced version:** 1.0.0, issued: 24.04.2014

**Region:** GB

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

### 1.1 Product identifier

Trade name

**RNA Separation buffer**

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

**Relevant identified uses of the substance or mixture**

Chemical processes general

### 1.3 Details of the supplier of the safety data sheet

**Address**

Shimadzu Europa GmbH

Albert-Hahn-Str. 6-10

47269 Duisburg

Telephone no. +49 (0)203 - 7687-0

Fax no. +49 (0)203 - 711045

**Information provided by / telephone**

Tel.: +49 (0)203 - 7687-0

**Advice on Safety Data Sheet**

sdb\_info@umco.de

### 1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification information**

This product does not meet the classification and labelling criteria given in the Regulation (EC) No 1272/2008 (CLP).

This product does not meet the classification and labelling criteria given in the Dangerous Preparations Directive (1999/45/EC; DPD)

### 2.2 Label elements

Not relevant

### 2.3 Other hazards

No data available.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable. The product is not a substance.

### 3.2 Mixtures

**Chemical characterization**

Buffer solution including EDTA and water soluble polymer.

**Hazardous ingredients**

This product does not contain substances to be mentioned according to EU Regulation No 1907/2006 (REACH), annex II.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General information**

In case of persisting adverse effects, consult a physician. Change contaminated, saturated clothing.

**After inhalation**

Remove affected person from the immediate area. Ensure supply of fresh air.

**After skin contact**

Wash off immediately with soap and water.

**After eye contact**

Separate eyelids, wash the eyes thoroughly with water (15 min.). Seek medical assistance.

**After ingestion**

Seek medical advice immediately. Drink plenty of water. Never give anything by mouth to an unconscious person.

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**Product no.:** 292-27914-94

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**Region:** GB

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

No data available.

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

No data available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water spray jet; Carbon dioxide; Extinguishing powder; Foam

#### Unsuitable extinguishing media

High power water jet

### 5.2 Special hazards arising from the substance or mixture

No data available.

### 5.3 Advice for firefighters

No data available.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Refer to protective measures listed in sections 7 and 8.

#### For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

### 6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

### 6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g., sand, sawdust, general-purpose binder). When picked up, treat material as prescribed under heading "Disposal considerations".

### 6.4 Reference to other sections

No data available.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Provide eye wash fountain in work area.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Technical measures and storage conditions

Keep container dry in a cool, well-ventilated place. Protect from sun.

#### Recommended storage temperature

Value 2 - 8 °C

#### Requirements for storage rooms and vessels

Containers which are opened must be carefully closed and kept upright to prevent leakage.

### 7.3 Specific end use(s)

No data available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

No parameters available for monitoring.

### 8.2 Exposure controls

#### Appropriate engineering controls

No data available.

#### Personal protective equipment

##### Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

**Trade name:** RNA Separation buffer**Product no.:** 292-27914-94**Current version :** 1.0.1, issued: 02.09.2014**Replaced version:** 1.0.0, issued: 24.04.2014**Region:** GB**Eye / face protection**

Safety glasses (EN 166)

**Hand protection**

In case of intensive contact, wear protective gloves (EN 374). Check in any case suitability of protective glove for the specific workplace conditions (e.g. mechanical resistance, product compatibility, antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves.

**Other**

Normal chemical work clothing.

**Environmental exposure controls**

No data available.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

<b>Form/Colour</b>		
liquid		
colourless, clear		
<b>Odour</b>		
odourless		
<b>Odour threshold</b>		
No data available		
<b>pH value</b>		
Value	8.4	
Reference temperature	20	°C
<b>Boiling point / boiling range</b>		
Value	appr.	100 °C
<b>Melting point / melting range</b>		
No data available		
<b>Decomposition point / decomposition range</b>		
No data available		
<b>Flash point</b>		
Not applicable		
<b>Auto-ignition temperature</b>		
No data available		
<b>Oxidising properties</b>		
No data available		
<b>Explosive properties</b>		
No data available		
<b>Flammability (solid, gas)</b>		
No data available		
<b>Lower flammability or explosive limits</b>		
No data available		
<b>Upper flammability or explosive limits</b>		
No data available		
<b>Vapour pressure</b>		
No data available		
<b>Vapour density</b>		
No data available		
<b>Evaporation rate</b>		
No data available		
<b>Relative density</b>		
No data available		
<b>Density</b>		
No data available		
<b>Solubility in water</b>		
Remarks	soluble	

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**Current version :** 1.0.1, issued: 02.09.2014

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**Region:** GB

## Solubility(ies)

No data available

## Partition coefficient: n-octanol/water

No data available

## Viscosity

No data available

## 9.2 Other information

### Other information

No data available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

stable if stored and handled properly.

### 10.3 Possibility of hazardous reactions

No data available.

### 10.4 Conditions to avoid

No data available.

### 10.5 Incompatible materials

Oxidizing agents

### 10.6 Hazardous decomposition products

No data available.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute oral toxicity

No data available

#### Acute dermal toxicity

No data available

#### Acute inhalational toxicity

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/irritation

No data available

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

No data available

#### Reproduction toxicity

No data available

#### Carcinogenicity

No data available

#### STOT-single exposure

No data available

#### STOT-repeated exposure

No data available

#### Aspiration hazard

No data available

#### Other information

Exercise customary precautions when handling chemicals.

**Trade name:** RNA Separation buffer**Product no.:** 292-27914-94**Current version :** 1.0.1, issued: 02.09.2014**Replaced version:** 1.0.0, issued: 24.04.2014**Region:** GB**SECTION 12: Ecological information****12.1 Toxicity****Toxicity to fish (acute)**

No data available

**Toxicity to fish (chronic)**

No data available

**Toxicity to Daphnia (acute)**

No data available

**Toxicity to Daphnia (chronic)**

No data available

**Toxicity to algae (acute)**

No data available

**Toxicity to algae (chronic)**

No data available

**Bacteria toxicity**

No data available

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Other adverse effects**

No data available.

**12.7 Other information****Other information**

Ecological data are not available.

Do not discharge product unmonitored into the environment.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

**Packaging**

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

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**Product no.:** 292-27914-94

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**Region:** GB

## SECTION 14: Transport information

### 14.1 Transport ADR/RID/ADN

The product is not subject to ADR/RID/ADN regulations.

### 14.2 Transport IMDG

The product is not subject to IMDG regulations.

### 14.3 Transport ICAO-TI / IATA

The product is not subject to ICAO-TI / IATA regulations.

### 14.4 Other information

No data available.

### 14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

### 14.6 Special precautions for user

No data available.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

## SECTION 15: Regulatory information

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

#### EU regulations

#### **Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances**

Remarks

Annex I, part 1 + 2: not mentioned. With regard to possibly appropriate decomposition products see Chapter 10.

### 15.2 Chemical safety assessment

No data available.

## SECTION 16: Other information

#### **Sources of key data used to compile the data sheet:**

EC Directive 67/548/EC resp. 1999/45/EC as amended in each case.

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

#### **Department issuing safety data sheet**

UMCO Umwelt Consult GmbH

Georg-Wilhelm-Str. 183 , D-21107 Hamburg

Tel.: +49 40 / 79 02 36 300 Fax: +49 40 / 79 02 36 357 e-mail: umco@umco.de

This information is based on our present state of knowledge and experience.

The security data sheet describes products with a view to the security requirements.

However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.

**Trade name:** RNA Marker solution

**Product no.:** 292-27915-94

**Current version :** 1.0.1, issued: 02.09.2014

**Replaced version:** 1.0.0, issued: 24.04.2014

**Region:** GB

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

### 1.1 Product identifier

Trade name

**RNA Marker solution**

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

**Relevant identified uses of the substance or mixture**

Chemical processes general

### 1.3 Details of the supplier of the safety data sheet

**Address**

Shimadzu Europa GmbH

Albert-Hahn-Str. 6-10

47269 Duisburg

Telephone no. +49 (0)203 - 7687-0

Fax no. +49 (0)203 - 711045

**Information provided by / telephone**

Tel.: +49 (0)203 - 7687-0

**Advice on Safety Data Sheet**

sdb\_info@umco.de

### 1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification information**

This product does not meet the classification and labelling criteria given in the Regulation (EC) No 1272/2008 (CLP).

This product does not meet the classification and labelling criteria given in the Dangerous Preparations Directive (1999/45/EC; DPD)

### 2.2 Label elements

Not relevant

### 2.3 Other hazards

No data available.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable. The product is not a substance.

### 3.2 Mixtures

**Chemical characterization**

Buffer solution including EDTA.

**Hazardous ingredients**

This product does not contain substances to be mentioned according to EU Regulation No 1907/2006 (REACH), annex II.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General information**

In case of persisting adverse effects, consult a physician. Change contaminated, saturated clothing.

**After inhalation**

Remove affected person from the immediate area. Ensure supply of fresh air.

**After skin contact**

Wash off immediately with soap and water.

**After eye contact**

Separate eyelids, wash the eyes thoroughly with water (15 min.). Seek medical assistance.

**After ingestion**

Seek medical advice immediately. Drink plenty of water. Never give anything by mouth to an unconscious person.

**Trade name:** RNA Marker solution

**Product no.:** 292-27915-94

**Current version :** 1.0.1, issued: 02.09.2014

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**Region:** GB

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

No data available.

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

No data available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water spray jet; Carbon dioxide; Extinguishing powder; Foam

#### Unsuitable extinguishing media

High power water jet

### 5.2 Special hazards arising from the substance or mixture

No data available.

### 5.3 Advice for firefighters

No data available.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Refer to protective measures listed in sections 7 and 8.

#### For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

### 6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

### 6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g., sand, sawdust, general-purpose binder). When picked up, treat material as prescribed under heading "Disposal considerations".

### 6.4 Reference to other sections

No data available.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Provide eye wash fountain in work area.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Technical measures and storage conditions

Keep container dry in a cool, well-ventilated place. Protect from sun.

#### Recommended storage temperature

Value -20 °C

#### Requirements for storage rooms and vessels

Containers which are opened must be carefully closed and kept upright to prevent leakage.

### 7.3 Specific end use(s)

No data available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

No parameters available for monitoring.

### 8.2 Exposure controls

#### Appropriate engineering controls

No data available.

#### Personal protective equipment

##### Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.



**Trade name:** RNA Marker solution**Product no.:** 292-27915-94**Current version :** 1.0.1, issued: 02.09.2014**Replaced version:** 1.0.0, issued: 24.04.2014**Region:** GB**Eye / face protection**

Safety glasses (EN 166)

**Hand protection**

In case of intensive contact, wear protective gloves (EN 374). Check in any case suitability of protective glove for the specific workplace conditions (e.g. mechanical resistance, product compatibility, antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves.

**Other**

Normal chemical work clothing.

**Environmental exposure controls**

No data available.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

<b>Form/Colour</b>		
liquid		
colourless, clear		
<b>Odour</b>		
odourless		
<b>Odour threshold</b>		
No data available		
<b>pH value</b>		
Value	8.4	
Reference temperature	20	°C
<b>Boiling point / boiling range</b>		
Value	appr.	100 °C
<b>Melting point / melting range</b>		
No data available		
<b>Decomposition point / decomposition range</b>		
No data available		
<b>Flash point</b>		
Not applicable		
<b>Auto-ignition temperature</b>		
No data available		
<b>Oxidising properties</b>		
No data available		
<b>Explosive properties</b>		
No data available		
<b>Flammability (solid, gas)</b>		
No data available		
<b>Lower flammability or explosive limits</b>		
No data available		
<b>Upper flammability or explosive limits</b>		
No data available		
<b>Vapour pressure</b>		
No data available		
<b>Vapour density</b>		
No data available		
<b>Evaporation rate</b>		
No data available		
<b>Relative density</b>		
No data available		
<b>Density</b>		
No data available		
<b>Solubility in water</b>		
Remarks	soluble	

**Trade name:** RNA Marker solution

**Product no.:** 292-27915-94

**Current version :** 1.0.1, issued: 02.09.2014

**Replaced version:** 1.0.0, issued: 24.04.2014

**Region:** GB

## Solubility(ies)

No data available

## Partition coefficient: n-octanol/water

No data available

## Viscosity

No data available

## 9.2 Other information

### Other information

No data available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

stable if stored and handled properly.

### 10.3 Possibility of hazardous reactions

No data available.

### 10.4 Conditions to avoid

No data available.

### 10.5 Incompatible materials

Oxidizing agents

### 10.6 Hazardous decomposition products

No data available.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute oral toxicity

No data available

#### Acute dermal toxicity

No data available

#### Acute inhalational toxicity

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/irritation

No data available

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

No data available

#### Reproduction toxicity

No data available

#### Carcinogenicity

No data available

#### STOT-single exposure

No data available

#### STOT-repeated exposure

No data available

#### Aspiration hazard

No data available

#### Other information

Exercise customary precautions when handling chemicals.

**Trade name:** RNA Marker solution**Product no.:** 292-27915-94**Current version :** 1.0.1, issued: 02.09.2014**Replaced version:** 1.0.0, issued: 24.04.2014**Region:** GB**SECTION 12: Ecological information****12.1 Toxicity****Toxicity to fish (acute)**

No data available

**Toxicity to fish (chronic)**

No data available

**Toxicity to Daphnia (acute)**

No data available

**Toxicity to Daphnia (chronic)**

No data available

**Toxicity to algae (acute)**

No data available

**Toxicity to algae (chronic)**

No data available

**Bacteria toxicity**

No data available

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Other adverse effects**

No data available.

**12.7 Other information****Other information**

Ecological data are not available.

Do not discharge product unmonitored into the environment.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

**Packaging**

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

**Trade name:** RNA Marker solution

**Product no.:** 292-27915-94

**Current version :** 1.0.1, issued: 02.09.2014

**Replaced version:** 1.0.0, issued: 24.04.2014

**Region:** GB

## SECTION 14: Transport information

### 14.1 Transport ADR/RID/ADN

The product is not subject to ADR/RID/ADN regulations.

### 14.2 Transport IMDG

The product is not subject to IMDG regulations.

### 14.3 Transport ICAO-TI / IATA

The product is not subject to ICAO-TI / IATA regulations.

### 14.4 Other information

No data available.

### 14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

### 14.6 Special precautions for user

No data available.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

## SECTION 15: Regulatory information

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

#### EU regulations

#### **Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances**

Remarks

Annex I, part 1 + 2: not mentioned. With regard to possibly appropriate decomposition products see Chapter 10.

### 15.2 Chemical safety assessment

No data available.

## SECTION 16: Other information

#### **Sources of key data used to compile the data sheet:**

EC Directive 67/548/EC resp. 1999/45/EC as amended in each case.

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

#### **Department issuing safety data sheet**

UMCO Umwelt Consult GmbH

Georg-Wilhelm-Str. 183 , D-21107 Hamburg

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This information is based on our present state of knowledge and experience.

The security data sheet describes products with a view to the security requirements.

However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.