

## 20.08.2020 Kit components

Product code	Description

1632100	ReadyPrep <sup>TM</sup> Sequential Extraction Kit
1632100EDU	

## Components:

1632102	Sequential Extraction Reagent 1	
1632103 Sequential Extraction Reagent 2		
1632101	ReadyPrep™ TBP Reducing Agent	
1632104	ReadyPrep Sequential Extraction Kit Reagent 3	



phone: 852-2789-3300 fax: 852-2789-1290

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## Safety data sheet according to 1907/2006/EC, Article 31

Printing date 20.08.2020 Revision: 20.08.2020

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

· 1.1 Product identifier

· Trade name: Sequential Extraction Reagent 1

· Article number: 1632102

· CAS Number:

77-86-1

· EC number:

201-064-4

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

No further relevant information available.

· Application of the substance / the mixture Laboratory chemicals

· 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Bio-Rad Pacific Ltd.

Unit 1101 DCH Commericial Centre

25 Westlands Road

Quarry Bay Hong Kong

· Information department: sales.hongkong@bio-rad.com

· 1.4 Emergency telephone number: 852-2789-3300

## SECTION 2: Hazards identification

· Emergency overview:

White, Solid. No Data Available

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008

The substance is not classified, according to the CLP regulation.

- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008 Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.

#### **SECTION 3: Composition/information on ingredients**

- · 3.1 Chemical characterisation: Substances
- · CAS No. Description:

77-86-1 Tris(hydroxymethyl)aminomethane

- · Identification number(s):
- · EC number: 201-064-4

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## Safety data sheet according to 1907/2006/EC, Article 31

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Trade name: Sequential Extraction Reagent 1

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· Additional information: For the wording of the listed risk phrases refer to section 16.

#### **SECTION 4: First aid measures**

- · 4.1 Description of first aid measures
- · General information No special measures required.
- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After skin contact Generally the product does not irritate the skin.
- · After eye contact Rinse opened eye for several minutes under running water.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.
- · 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

#### **SECTION 5: Firefighting measures**

- · 5.1 Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- · 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

#### SECTION 6: Accidental release measures

- · 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- 6.2 Environmental precautions: No special measures required.
- 6.3 Methods and material for containment and cleaning up: Pick up mechanically.
- · 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

#### SECTION 7: Handling and storage

- · 7.1 Precautions for safe handling No special precautions are necessary if used correctly.
- · Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- · 7.3 Specific end use(s) No further relevant information available.

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Trade name: Sequential Extraction Reagent 1

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## SECTION 8: Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace: Not required.
- · Additional information: The lists that were valid during the creation were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures

The usual precautionary measures should be adhered to when handling chemicals.

- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Safety glasses

· Density at 20 °C:

· Relative density

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SECTION 9: Ph	veical and	chamical	nronartiae
	y Sical allu	GHEHHGAI	properties

SECTION 9. Filysical and chell	The Property of the Control of the C
<ul> <li>9.1 Information on basic physical and</li> <li>General Information</li> <li>Appearance:         <ul> <li>Form:</li> <li>Colour:</li> <li>Odour:</li> </ul> </li> </ul>	Solid. White Odourless
· Odour threshold:	Not determined.
· pH-value:	10.5-12
· Change in condition Melting point/freezing point: Initial boiling point and boiling rang	171.2 °C ge: 219 °C
· Flash point:	Not applicable Not determined.
· Flammability (solid, gaseous)	Product is not flammable.
· Decomposition temperature:	Not determined.
· Self igniting:	Not determined.
· Explosive properties:	Not determined.
· Explosion limits: Lower: Upper:	Not determined. Not determined.
· Vapour pressure:	Not applicable.

0.84 g/cm<sup>3</sup>

Not determined.

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Trade name: Sequential Extraction Reagent 1

		(Contd. of page 3)
· Vapour density · Evaporation rate	Not applicable. Not applicable.	
· Solubility in / Miscibility with Water at 20 °C:	678 g/l	
· Partition coefficient: n-octanol/water:	Not determined.	
· Viscosity: dynamic: kinematic:	Not applicable. Not applicable.	
Solids content:  • 9.2 Other information	100.0 % No further relevant information available.	

#### SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known
- 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known

#### SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity Based on available data, the classification criteria are not met.
- · LD/LC50 values that are relevant for classification:

#### 77-86-1 Tris(hydroxymethyl)aminomethane

Oral LD50 5,900 mg/kg (Rat)
Dermal LD50 >5,000 mg/kg (Rat)

- Primary irritant effect:
- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure Based on available data, the classification criteria are not met.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.

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Trade name: Sequential Extraction Reagent 1

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### **SECTION 12: Ecological information**

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- · 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes: Generally not hazardous for water.
- · 12.5 Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

## **SECTION 13: Disposal considerations**

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose of waste in accordance to applicable national, regional, or local regulations.

- Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION 14: Transport information		
· 14.1 UN-Number · ADR, ADN, IMDG, IATA	Not Reguated	
· 14.2 UN proper shipping name · ADR · ADN, IMDG, IATA	Not Reguated Not Reguated Not Reguated	
· 14.3 Transport hazard class(es)		
· ADR, ADN, IMDG, IATA · Class	Not Reguated	
· 14.4 Packing group · ADR, IMDG, IATA	Not Reguated	
· 14.5 Environmental hazards: · Marine pollutant:	No	
· 14.6 Special precautions for user	Not applicable.	
		(Contd. on page 6





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Trade name: Sequential Extraction Reagent 1

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• 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

· UN "Model Regulation": Not Reguated

#### **SECTION 15: Regulatory information**

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I Substance is not listed.
- · National regulations
- · Water hazard class: Generally not hazardous for water.
- · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

#### **SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environmental Health and Safety.
- · Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

· \* Data compared to the previous version altered.

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Printing date 20.08.2020 Revision: 20.08.2020

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

- · 1.1 Product identifier
- · Trade name: Sequential Extraction Reagent 2
- · Article number: 1632103, 9703561
- · 1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

- · Application of the substance / the mixture Laboratory chemicals
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Pacific Ltd.

Unit 1101 DCH Commericial Centre

25 Westlands Road

Quarry Bay Hong Kong

phone: 852-2789-3300 fax: 852-2789-1290

- · Information department: sales.hongkong@bio-rad.com
- · 1.4 Emergency telephone number: 852-2789-3300

#### SECTION 2: Hazards identification

· Emergency overview:

White, Solid. No Data Available

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008 The product is not classified, according to the CLP regulation.
- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008 Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.

## SECTION 3: Composition/information on ingredients

- · 3.2 Chemical characterisation: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.
- · Dangerous components:

CAS: 57-13-6 EINECS: 200-315-5

urea

substance with a Community workplace exposure limit 50-100%

· Additional information For the wording of the listed hazard phrases refer to section 16.

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## Safety data sheet according to 1907/2006/EC, Article 31

Printing date 20.08.2020 Revision: 20.08.2020

Trade name: Sequential Extraction Reagent 2

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#### **SECTION 4: First aid measures**

- · 4.1 Description of first aid measures
- · General information No special measures required.
- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After skin contact Generally the product does not irritate the skin.
- · After eye contact Rinse opened eye for several minutes under running water.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.
- · 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

### **SECTION 5: Firefighting measures**

- · 5.1 Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- · 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

#### **SECTION 6: Accidental release measures**

- · 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- · 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · 6.3 Methods and material for containment and cleaning up: Pick up mechanically.
- · 6.4 Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### SECTION 7: Handling and storage

- 7.1 Precautions for safe handling No special measures required.
- Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- · 7.3 Specific end use(s) No further relevant information available.

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Printing date 20.08.2020 Revision: 20.08.2020

Trade name: Sequential Extraction Reagent 2

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### SECTION 8: Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace:

57-13-6 urea

OEL (China (Chinese)) Short-term value: 10 mg/m³ Long-term value: 5 mg/m³

- · Additional information: The lists that were valid during the creation were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures

The usual precautionary measures should be adhered to when handling chemicals.

- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Safety glasses

SECTION 9: Pr	ysical and	chemical	propert	ies
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· 9.1 Intorma	ation on	pasic	pnysicai	ana	cnemicai	properties
Canaral In	formatio	<b>n</b>				

· General Information

· Appearance:

Form: Solid.
Colour: White

Odour: Odourless
Odour threshold: Not determined.

• **pH-value at 20 °C:** 9.2

· Change in condition

Melting point/freezing point: 135 °C Initial boiling point and boiling range: undetermined

• Flash point: Not applicable Not determined.

· Flammability (solid, gaseous) Not determined.

· Decomposition temperature: Not determined.

· **Self igniting:** Product is not selfigniting.

• Explosive properties: Not determined.

· Explosion limits:

**Lower:** Not determined.

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Trade name: Sequential Extraction Reagent 2

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Upper:	Not determined.
· Vapour pressure:	Not applicable.
· Density:	Not determined
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with	
Water at 20 °C:	800 g/l
	Fully miscible
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
Solvent content:	
Water:	0.2 %
Solids content:	99.7 %
· 9.2 Other information	No further relevant information available.

#### SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known
- 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known

#### SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity Based on available data, the classification criteria are not met.
- · LD/LC50 values that are relevant for classification:

#### 57-13-6 urea

Oral LD50 14,500 mg/kg (rat)

- Primary irritant effect:
- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.

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Trade name: Sequential Extraction Reagent 2

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- · Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure Based on available data, the classification criteria are not met.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.

### **SECTION 12: Ecological information**

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · 12.5 Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

## SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose of waste in accordance to applicable national, regional, or local regulations.

- Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information				
· 14.1 UN-Number · ADR, ADN, IMDG, IATA	Not Reguated			
· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	Not Reguated			
· 14.3 Transport hazard class(es)				
· ADR, ADN, IMDG, IATA · Class	Not Reguated			
· 14.4 Packing group · ADR, IMDG, IATA	Not Reguated			
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Trade name: Sequential Extraction Reagent 2

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· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of and the IBC Code	of Marpol Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

### **SECTION 15: Regulatory information**

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · National regulations
- · Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

#### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Environmental Health and Safety.
- · Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

· \* Data compared to the previous version altered.

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Printing date 20.08.2020 Revision: 29.07.2020

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

- · 1.1 Product identifier
- · Trade name: ReadyPrep™ TBP Reducing Agent
- · Article number: 1632101, 1632101EDU
- · 1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

- · Application of the substance / the mixture Laboratory chemicals
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Pacific Ltd.

Unit 1101 DCH Commericial Centre

25 Westlands Road

Quarry Bay Hong Kong

Hong Kong phone: 852-2789-3300 fax: 852-2789-1290

- · Information department: sales.hongkong@bio-rad.com
- · 1.4 Emergency telephone number: 852-2789-3300

#### **SECTION 2: Hazards identification**

· Emergency overview:

Colourless, Fluid, No Data Available

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008 The product is not classified, according to the CLP regulation.
- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008 Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.

### SECTION 3: Composition/information on ingredients

- · 3.2 Chemical characterisation: Mixtures
- · **Description**: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:			
CAS: 872-50-4 EINECS: 212-828-1	N-methyl-2-pyrrolidone	Repr. 1B, H360 Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 Flam. Liq. 4, H227; Acute Tox. 5, H303	50-100%
CAS: 998-40-3 EINECS: 213-651-2	tributylphosphine	Flam. Liq. 3, H226; Self-heat. 1, H251 Ox. Liq. 2, H272 Acute Tox. 3, H301; Acute Tox. 3, H311 Skin Corr. 1B, H314; Eye Dam. 1, H318	3-<5%

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Trade name: ReadyPrep™ TBP Reducing Agent

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·SVHC

872-50-4 N-methyl-2-pyrrolidone

· Additional information For the wording of the listed hazard phrases refer to section 16.

#### **SECTION 4: First aid measures**

- · 4.1 Description of first aid measures
- · General information No special measures required.
- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After eye contact Rinse opened eye for several minutes under running water.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.
- · 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

#### **SECTION 5: Firefighting measures**

- · 5.1 Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- · 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

#### SECTION 6: Accidental release measures

- · 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

· 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

#### SECTION 7: Handling and storage

- · 7.1 Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.

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Revision: 29.07.2020 Printing date 20.08.2020

Trade name: ReadyPrep™ TBP Reducing Agent

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· 7.3 Specific end use(s) No further relevant information available.

## SECTION 8: Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · Additional information: The lists that were valid during the creation were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures

The usual precautionary measures should be adhered to when handling chemicals.

- · Breathing equipment: Not required.
- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Safety glasses

· Flammability (solid, gaseous)

· Decomposition temperature:

· Ignition temperature:

SECTION 9: Physical and chen	nical properties
<ul> <li>9.1 Information on basic physical and General Information</li> <li>Appearance:     Form:     Colour:     Odour:     Odour threshold:</li> </ul>	d chemical properties  Fluid Colourless Amine-like Not determined.
· pH-value:	Not determined.
· Change in condition Melting point/freezing point: Initial boiling point and boiling rang	-24 °C ge: undetermined
· Flash point:	Not applicable

Not determined. Not applicable.

270 °C

Not determined.

· Self igniting: Product is not selfigniting.

· Explosive properties: Not determined.

(Contd. on page 4)





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Trade name: ReadyPrep™ TBP Reducing Agent

	(Contd. of page 3
· Explosion limits:	
Lower:	1.3 Vol %
Upper:	9.5 Vol %
· Vapour pressure at 20 °C:	0.3 hPa
· Density at 20 °C:	1.013 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
· Solvent content:	
Organic solvents:	95.8 %
· 9.2 Other information	No further relevant information available.

#### SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known
- 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known

#### SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity Based on available data, the classification criteria are not met.
- · LD/LC50 values that are relevant for classification:

#### 872-50-4 N-methyl-2-pyrrolidone

Oral LD50 3,600 mg/kg (rat)
Dermal LD50 8,000 mg/kg (rbt)

- · Primary irritant effect:
- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

(Contd. on page 5)



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## Safety data sheet according to 1907/2006/EC, Article 31

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Trade name: ReadyPrep™ TBP Reducing Agent

(Contd. of page 4)

- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure Based on available data, the classification criteria are not met.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.

#### SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · 12.5 Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

#### SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose of waste in accordance to applicable national, regional, or local regulations.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport informa	
	TION
SECTION 17. Hallspoil Illioilla	UUII

•	14.1	UN	l-Nu	mber
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· ADR, ADN, IMDG, IATA Not Reguated

· 14.2 UN proper shipping name

· ADR Not Reguated
Not Requated

· ADN, IMDG, IATA Not Reguated

(Contd. on page 6)





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Trade name: ReadyPrep™ TBP Reducing Agent

		(Contd. of page 5
· 14.3 Transport hazard class(es)		
· ADR, ADN, IMDG, IATA · Class	Not Reguated	
· 14.4 Packing group · ADR, IMDG, IATA	Not Reguated	
· 14.5 Environmental hazards: · Marine pollutant:	No	
· 14.6 Special precautions for user	Not applicable.	
· 14.7 Transport in bulk according to Annex II and the IBC Code	l <b>of Marpol</b> Not applicable.	
· UN "Model Regulation":	Not Reguated	

#### SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · National regulations
- · Technical instructions (air):

Class	Share in %
NK	50-100

- · Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- · Other regulations, limitations and prohibitive regulations
- · Substances of very high concern (SVHC) according to REACH, Article 57

872-50-4 N-methyl-2-pyrrolidone

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

#### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Environmental Health and Safety.
- Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000 (Contd. on page 7)



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## Safety data sheet according to 1907/2006/EC, Article 31

Printing date 20.08.2020 Revision: 29.07.2020

Trade name: ReadyPrep™ TBP Reducing Agent

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#### Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic SVHC: Substances of Very High Concern vPvB: very Persistent and very Bioaccumulative Flam. Liq. 3: Flammable liquids – Category 3 Flam. Liq. 4: Flammable liquids – Category 4

Self-heat. 1: Self-heating substances and mixtures - Category 1

Ox. Liq. 2: Oxidizing liquids – Category 2
Acute Tox. 3: Acute toxicity - oral – Category 3
Acute Tox. 5: Acute toxicity - oral – Category 5
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Repr. 1B: Reproductive toxicity – Category 1B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

\* Data compared to the previous version altered.

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Printing date 20.08.2020 Revision: 20.08.2020

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

- · 1.1 Product identifier
- · Trade name: ReadyPrep Sequential Extraction Kit Reagent 3
- · Article number: 1632104, 9703562
- · 1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

- · Application of the substance / the mixture Laboratory chemicals
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Pacific Ltd.

Unit 1101 DCH Commericial Centre

25 Westlands Road

Quarry Bay Hong Kong

Hong Kong phone: 852-2789-3300 fax: 852-2789-1290

- · Information department: sales.hongkong@bio-rad.com
- · 1.4 Emergency telephone number: 852-2789-3300

#### SECTION 2: Hazards identification

· Emergency overview:

Light yellow, Fluid, No Data Available

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008 The product is not classified, according to the CLP regulation.
- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008 Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.

### SECTION 3: Composition/information on ingredients

- · 3.2 Chemical characterisation: Mixtures
- · **Description**: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:		
CAS: 57-13-6 EINECS: 200-315-5	urea substance with a Community workplace exposure limit	50-100%
EINECS: 200-543-5	thiourea Carc. 2, H351; Repr. 2, H361 Aquatic Chronic 2, H411 Acute Tox. 4, H302 Acute Tox. 5, H313	25-35%

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### Safety data sheet according to 1907/2006/EC. Article 31

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Trade name: ReadyPrep Sequential Extraction Kit Reagent 3

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CAS: 55179-31-2 1-(4-biphenylyloxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanol EINECS: 259-513-5 Acute Tox. 3, H331

2.5-5%

Acute Tox. 4, H302; Acute Tox. 4, H312

· Additional information For the wording of the listed hazard phrases refer to section 16.

#### SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information No special measures required.
- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After skin contact Generally the product does not irritate the skin.
- · After eye contact Rinse opened eye for several minutes under running water.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.
- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- · 4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

#### SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- · 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

#### SECTION 6: Accidental release measures

- · 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

· 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

#### SECTION 7: Handling and storage

- · 7.1 Precautions for safe handling No special precautions are necessary if used correctly.
- Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- · Information about storage in one common storage facility: Not required.

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(Contd. of page 2)

- · Further information about storage conditions: None.
- · 7.3 Specific end use(s) No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace:

57-13-6 urea

OEL (China (Chinese)) Short-term value: 10 mg/m3 Long-term value: 5 mg/m<sup>3</sup>

- · Additional information: The lists that were valid during the creation were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures

The usual precautionary measures should be adhered to when handling chemicals.

- · Breathing equipment: Not required.
- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eve protection: Safety glasses

#### SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Fluid Colour: Light yellow · Odour: Odourless · Odour threshold: Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/freezing point: undetermined Initial boiling point and boiling range: undetermined

· Flash point: Not applicable Not determined.

· Flammability (solid, gaseous) Not applicable.

· Ignition temperature: 440 °C

· Decomposition temperature: Not determined.

(Contd. on page 4)





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Trade name: ReadyPrep Sequential Extraction Kit Reagent 3

	(Contd. of page
Self igniting:	Product is not selfigniting.
Explosive properties:	Not determined.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapour pressure:	Not determined.
Density:	Not determined
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
Solvent content:	
Water:	0.2 %
Solids content:	99.7 %
9.2 Other information	No further relevant information available.

## SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known
- 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known

## **SECTION 11: Toxicological information**

- · 11.1 Information on toxicological effects
- · Acute toxicity Based on available data, the classification criteria are not met.

· LD/LC	50 valu	es that are relevant for classification:
57-13-0	6 urea	
Oral	LD50	14,500 mg/kg (rat)
62-56-6	6 thiou	rea
Oral	LD50	1,750 mg/kg (rat)
		(Contd. on nago 5

(Contd. on page 5



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## Safety data sheet according to 1907/2006/EC, Article 31

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Trade name: ReadyPrep Sequential Extraction Kit Reagent 3

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#### Dermal LD50 2,800 mg/kg (rbt)

- · Primary irritant effect:
- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure Based on available data, the classification criteria are not met.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.

#### **SECTION 12: Ecological information**

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- · 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

- · 12.5 Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- · 12.6 Other adverse effects No further relevant information available.

#### SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose of waste in accordance to applicable national, regional, or local regulations.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

### **SECTION 14: Transport information**

- · 14.1 UN-Number
- · ADR, IMDG, IATA

UN2810

(Contd. on page 6)





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Trade name: ReadyPrep Sequential Extraction Kit Reagent 3

	(Contd. of page
· 14.2 UN proper shipping name · ADR · IMDG, IATA	2810 TOXIC LIQUID, ORGANIC, N.O.S. (thiourea, 1-(4 biphenylyloxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanol ENVIRONMENTALLY HAZARDOUS 2810 TOXIC LIQUID, ORGANIC, N.O.S. (thiourea, ß-([1,1 biphenyl]-4-yloxy)-alpha-tert-butyl-1H-1,2,4-triazol-1-ethanol) TOXIC LIQUID, ORGANIC, N.O.S. (thiourea, 1-(4 biphenylyloxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanol)
· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA · Class · Label	6.1 Toxic substances. 6.1
· 14.4 Packing group · ADR, IMDG, IATA	III
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR):	No Symbol (fish and tree)
<ul> <li>14.6 Special precautions for user</li> <li>Hazard identification number (Kemler code):</li> <li>EMS Number:</li> <li>Stowage Category</li> <li>Stowage Code</li> </ul>	Warning: Toxic substances. 60 F-A,S-A A SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of Ma and the IBC Code	<b>arpol</b> Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category · Tunnel restriction code	2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (THIOUREA, 1-( BIPHENYLYLOXY)-3,3-DIMETHYL-1-(1H-1,2,4-TRIAZOL-1-YL 2-BUTANOL), 6.1, III, ENVIRONMENTALLY HAZARDOUS





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Trade name: ReadyPrep Sequential Extraction Kit Reagent 3

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#### **SECTION 15: Regulatory information**

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · Seveso category E2 Hazardous to the Aquatic Environment
- · Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t
- · National regulations
- · Technical instructions (air):

Class	Share in %
1	20-35

- · Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.
- · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

#### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environmental Health and Safety.
- Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

#### Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity - oral - Category 4

Acute Tox. 5: Acute toxicity - dermal – Category 5 Acute Tox. 3: Acute toxicity - inhalation – Category 3

Carc. 2: Carcinogenicity - Category 2

Repr. 2: Reproductive toxicity - Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard - Category 2

· \* Data compared to the previous version altered.