

SAFETY DATA SHEET



Micro RNA Isolation Kit, Part Number 200344-1

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

1.1 Product identifier

Product name	:	Micro RNA Isolation Kit, Part Number 200344-1
Part no. (chemical kit)	:	200344-1
Part no.	:	<input checked="" type="checkbox"/> -Mercaptoethanol 200345-21
		Micro RNA Isolation Kit 200344-17
		Isopropanol
		Chloroform: Isoamyl 200344-15
		Alcohol
		Micro RNA Isolation Kit 200344-16
		Denaturing Solution
		Phenol pH 5.3 - 5.7 200344-18
		Equilibrated with 0.1 M
		Succinic Acid
		2M Sodium Acetate pH 200344-19
		4.0

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

Material uses	:	Analytical reagent.
		β -Mercaptoethanol 0.75 ml (750 μ l 14.33 M)
		Micro RNA Isolation Kit Isopropanol 50 ml
		Chloroform:isoamyl alcohol 10 ml
		Micro RNA Isolation Kit Denaturing Solution 50 ml
		Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M 50 ml
		Succinic Acid
		2M Sodium Acetate pH 4.0 5 ml

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition	:	<input checked="" type="checkbox"/> -Mercaptoethanol Mono-constituent substance
		Micro RNA Isolation Kit Mono-constituent substance
		Isopropanol
		Chloroform: Isoamyl Mixture
		Alcohol
		Micro RNA Isolation Kit Mixture
		Denaturing Solution
		Phenol pH 5.3 - 5.7 Mixture

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Equilibrated with 0.1 M
Succinic Acid
2M Sodium Acetate pH 4.0 Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

β-Mercaptoethanol

H301 ACUTE TOXICITY (oral) - Category 3
H310 ACUTE TOXICITY (dermal) - Category 2
H330 ACUTE TOXICITY (inhalation) - Category 2
H315 SKIN CORROSION/IRRITATION - Category 2
H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
H317 SKIN SENSITISATION - Category 1
H335 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
H411 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

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Isopropanol

H225 FLAMMABLE LIQUIDS - Category 2
H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
H336 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3

Chloroform: Isoamyl Alcohol

H302 ACUTE TOXICITY (oral) - Category 4
H331 ACUTE TOXICITY (inhalation) - Category 3
H315 SKIN CORROSION/IRRITATION - Category 2
H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
H351 CARCINOGENICITY - Category 2
H361D REPRODUCTIVE TOXICITY (Unborn child) - Category 2
H372 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1

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Denaturing Solution

H302 ACUTE TOXICITY (oral) - Category 4
H332 ACUTE TOXICITY (inhalation) - Category 4
H412 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

Phenol pH 5.3 - 5.7

Equilibrated with 0.1 M

Succinic Acid

H301 ACUTE TOXICITY (oral) - Category 3
H311 ACUTE TOXICITY (dermal) - Category 3
H331 ACUTE TOXICITY (inhalation) - Category 3
H314 SKIN CORROSION/IRRITATION - Category 1B
H341 GERM CELL MUTAGENICITY - Category 2
H373 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

Ingredients of unknown toxicity

: Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%

2M Sodium Acetate pH 4.0
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 10 - 30%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%






See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

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SECTION 2: Hazards identification

2.2 Label elements

Hazard pictograms	: <input checked="" type="checkbox"/> Mercaptoethanol	
	Micro RNA Isolation Kit Isopropanol	
	Chloroform: Isoamyl Alcohol	
	Micro RNA Isolation Kit Denaturing Solution	
	Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	
Signal word	: <input checked="" type="checkbox"/> Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Danger Danger Danger Warning Danger No signal word.
Hazard statements	: <input checked="" type="checkbox"/> Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution	H310 + H330 - Fatal in contact with skin or if inhaled. H301 - Toxic if swallowed. H318 - Causes serious eye damage. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H335 - May cause respiratory irritation. H411 - Toxic to aquatic life with long lasting effects. H225 - Highly flammable liquid and vapour. H319 - Causes serious eye irritation. H336 - May cause drowsiness or dizziness. H331 - Toxic if inhaled. H302 - Harmful if swallowed. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H361d - Suspected of damaging the unborn child. H351 - Suspected of causing cancer. H372 - Causes damage to organs through prolonged or repeated exposure. H302 + H332 - Harmful if swallowed or if inhaled. H412 - Harmful to aquatic life with long lasting effects.


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Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled. H314 - Causes severe skin burns and eye damage. H341 - Suspected of causing genetic defects. H373 - May cause damage to organs through prolonged or repeated exposure.
2M Sodium Acetate pH 4.0	No known significant effects or critical hazards.

Precautionary statements

Prevention

:  Mercaptoethanol	P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection. P273 - Avoid release to the environment. P262 - Do not get in eyes, on skin, or on clothing. P260 - Do not breathe vapour.
Micro RNA Isolation Kit Isopropanol	P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Chloroform: Isoamyl Alcohol	P201 - Obtain special instructions before use. P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection. P260 - Do not breathe vapour.
Micro RNA Isolation Kit Denaturing Solution	P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P261 - Avoid breathing vapour.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	P201 - Obtain special instructions before use. P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection. P260 - Do not breathe vapour.
2M Sodium Acetate pH 4.0	Not applicable.

Response

:  Mercaptoethanol	P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or physician. P302 + P310 - IF ON SKIN: Immediately call a POISON CENTER or physician. P305 + P310 - IF IN EYES: Immediately call a POISON CENTER or physician.
Micro RNA Isolation Kit Isopropanol	P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
Chloroform: Isoamyl Alcohol	P304 + P340 + P311 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician.
Micro RNA Isolation Kit Denaturing Solution	P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Take

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SECTION 2: Hazards identification

		off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or physician. P305 + P310 - IF IN EYES: Immediately call a POISON CENTER or physician. Not applicable.
Storage	2M Sodium Acetate pH 4.0 : <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Not applicable. P405 - Store locked up. P405 - Store locked up. P405 - Store locked up. Not applicable. P405 - Store locked up. Not applicable.
Disposal	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable.
Hazardous ingredients	: <input checked="" type="checkbox"/> Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	- trichloromethane - salts of thiocyanic acid - phenol Not applicable.
Supplemental label elements	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Safety data sheet available on request.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7	Not applicable. Not applicable. For use in industrial installations only. Not applicable. Not applicable.

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SECTION 2: Hazards identification

Equilibrated with 0.1 M Succinic Acid
2M Sodium Acetate pH 4.0 Not applicable.

Special packaging requirements

Tactile warning of danger : Mercaptoethanol Not applicable.
Micro RNA Isolation Kit Not applicable.
Isopropanol
Chloroform: Isoamyl Alcohol Not applicable.
Micro RNA Isolation Kit Denaturing Solution Not applicable.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Not applicable.
2M Sodium Acetate pH 4.0 Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : Mercaptoethanol None known.
Micro RNA Isolation Kit None known.
Isopropanol
Chloroform: Isoamyl Alcohol None known.
Alcohol
Micro RNA Isolation Kit Denaturing Solution None known.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Causes digestive tract burns.
2M Sodium Acetate pH 4.0 None known.

SECTION 3: Composition/information on ingredients

3.1 Substances : Mercaptoethanol Mono-constituent substance
Micro RNA Isolation Kit Mono-constituent substance
Isopropanol
Chloroform: Isoamyl Alcohol Mixture
Micro RNA Isolation Kit Denaturing Solution Mixture
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Mixture
2M Sodium Acetate pH 4.0 Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<input checked="" type="checkbox"/> Mercaptoethanol β-Mercaptoethanol	EC: 200-464-6 CAS: 60-24-2	100	Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411	[A]
Micro RNA Isolation Kit Isopropanol Propan-2-ol	EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0	100	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	[A]

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SECTION 3: Composition/information on ingredients

Chloroform: Isoamyl Alcohol Trichloromethane	EC: 200-663-8 CAS: 67-66-3 Index: 602-006-00-4	≥90	Acute Tox. 4, H302 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 Repr. 2, H361d (Unborn child) STOT RE 1, H372	[1] [2]
3-Methylbutan-1-ol	EC: 204-633-5 CAS: 123-51-3 Index: 603-006-00-7	≤3	Flam. Liq. 3, H226 Acute Tox. 4, H332 STOT SE 3, H335 EUH066	[1] [2]
Micro RNA Isolation Kit Denaturing Solution Guanidinium thiocyanate	EC: 209-812-1 CAS: 593-84-0 Index: 615-004-00-3	≥25 - ≤50	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Aquatic Chronic 3, H412 EUH032	[1]
Sodium N-lauroylsarcosinate	EC: 205-281-5 CAS: 137-16-6	<1	Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Dam. 1, H318	[1]
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Phenol	EC: 203-632-7 CAS: 108-95-2 Index: 604-001-00-2	≥90	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1B, H314 Muta. 2, H341 STOT RE 2, H373 Eye Irrit. 2, H319	[1] [2]
Succinic acid	EC: 203-740-4 CAS: 110-15-6	≤3	Eye Irrit. 2, H319	[1]
2M Sodium Acetate pH 4.0 acetic acid	EC: 200-580-7 CAS: 64-19-7 Index: 607-002-00-6	≥25 - ≤50	Flam. Liq. 3, H226 Skin Corr. 1A, H314	[1] [2]
			See Section 16 for the full text of the H statements declared above.	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.



Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy
- [A] Constituent
- [B] Impurity
- [C] Stabilising additive

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SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	:  -Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
	Micro RNA Isolation Kit Isopropanol	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	Chloroform: Isoamyl Alcohol	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	Micro RNA Isolation Kit Denaturing Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
	Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
	2M Sodium Acetate pH 4.0	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	:  -Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Micro RNA Isolation Kit Isopropanol	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Chloroform: Isoamyl Alcohol	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in

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		recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Micro RNA Isolation Kit Denaturing Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	2M Sodium Acetate pH 4.0	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	:  Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Gently wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Micro RNA Isolation Kit Isopropanol	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Chloroform: Isoamyl Alcohol	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Micro RNA Isolation Kit Denaturing Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear

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Ingestion

2M Sodium Acetate pH
4.0

: -Mercaptoethanol

Micro RNA Isolation Kit
Isopropanol

Chloroform: Isoamyl
Alcohol

Micro RNA Isolation Kit
Denaturing Solution

gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt

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SECTION 4: First aid measures

Phenol pH 5.3 - 5.7
Equilibrated with 0.1 M
Succinic Acid

or waistband.
Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

2M Sodium Acetate pH
4.0

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders : Mercaptoethanol

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Micro RNA Isolation Kit
Isopropanol

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Chloroform: Isoamyl
Alcohol

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Micro RNA Isolation Kit
Denaturing Solution

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Phenol pH 5.3 - 5.7
Equilibrated with 0.1 M
Succinic Acid

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

2M Sodium Acetate pH
4.0

No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

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SECTION 4: First aid measures

Eye contact	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Causes serious eye damage. Causes serious eye irritation. Causes serious eye irritation. No known significant effects or critical hazards. Causes serious eye damage. No known significant effects or critical hazards.
Inhalation	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Fatal if inhaled. May cause respiratory irritation. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. Toxic if inhaled. Harmful if inhaled. Toxic if inhaled. No known significant effects or critical hazards.
Skin contact	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Fatal in contact with skin. Causes skin irritation. May cause an allergic skin reaction. No known significant effects or critical hazards. Causes skin irritation. No known significant effects or critical hazards. Causes severe burns. Toxic in contact with skin. No known significant effects or critical hazards.
Ingestion	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Toxic if swallowed. Can cause central nervous system (CNS) depression. Harmful if swallowed. Harmful if swallowed. Toxic if swallowed. Corrosive to the digestive tract. Causes burns. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: <input checked="" type="checkbox"/> -Mercaptoethanol	Adverse symptoms may include the following: pain watering redness
	Micro RNA Isolation Kit Isopropanol	Adverse symptoms may include the following: pain or irritation watering redness
	Chloroform: Isoamyl Alcohol	Adverse symptoms may include the following:

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		pain or irritation watering redness No specific data.
	Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Adverse symptoms may include the following:
	2M Sodium Acetate pH 4.0	pain watering redness No specific data.
Inhalation	: <input checked="" type="checkbox"/> -Mercaptoethanol	Adverse symptoms may include the following: respiratory tract irritation coughing
	Micro RNA Isolation Kit Isopropanol	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
	Chloroform: Isoamyl Alcohol	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
	Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	No specific data.
	2M Sodium Acetate pH 4.0	No specific data.
Skin contact	: <input checked="" type="checkbox"/> -Mercaptoethanol	Adverse symptoms may include the following: pain or irritation redness blistering may occur
	Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol	No specific data. Adverse symptoms may include the following: irritation redness reduced foetal weight increase in foetal deaths skeletal malformations
	Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	No specific data. Adverse symptoms may include the following:
	2M Sodium Acetate pH 4.0	pain or irritation redness blistering may occur No specific data.

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Ingestion	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Adverse symptoms may include the following: stomach pains No specific data. Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations No specific data. Adverse symptoms may include the following: stomach pains No specific data.
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4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH	Use an extinguishing agent suitable for the surrounding fire. Use dry chemical, CO ₂ , water spray (fog) or foam. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
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SECTION 5: Firefighting measures

	4.0	
Unsuitable extinguishing media	<p><input checked="" type="checkbox"/>-Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0</p>	<p>None known. Do not use water jet. None known. None known. None known. None known. None known.</p>
5.2 Special hazards arising from the substance or mixture		
Hazards from the substance or mixture	<p><input checked="" type="checkbox"/>-Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0</p>	<p>In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.</p>
Hazardous combustion products	<p><input checked="" type="checkbox"/>-Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M</p>	<p>Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds carbonyl halides Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides Decomposition products may include the following materials:</p>

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SECTION 5: Firefighting measures

Succinic Acid

carbon dioxide

carbon monoxide

2M Sodium Acetate pH 4.0

Decomposition products may include the following materials:

carbon dioxide

carbon monoxide

metal oxide/oxides

5.3 Advice for firefighters

Special precautions for fire-fighters

:  Mercaptoethanol

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Micro RNA Isolation Kit Isopropanol

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Chloroform: Isoamyl Alcohol

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Micro RNA Isolation Kit Denaturing Solution

Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Special protective equipment for fire-fighters

:  Mercaptoethanol

Micro RNA Isolation Kit Isopropanol

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Chloroform: Isoamyl Alcohol

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Micro RNA Isolation Kit Denaturing Solution

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

2M Sodium Acetate pH

Fire-fighters should wear appropriate protective equipment

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SECTION 5: Firefighting measures

4.0

and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: -Mercaptoethanol

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Micro RNA Isolation Kit
Isopropanol

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Chloroform: Isoamyl
Alcohol

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Micro RNA Isolation Kit
Denaturing Solution

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Phenol pH 5.3 - 5.7
Equilibrated with 0.1 M
Succinic Acid

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

2M Sodium Acetate pH
4.0

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

For emergency responders

: -Mercaptoethanol

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Micro RNA Isolation Kit
Isopropanol

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Chloroform: Isoamyl
Alcohol

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-

Micro RNA Isolation Kit, Part Number 200344-1

SECTION 6: Accidental release measures

Micro RNA Isolation Kit Denaturing Solution	emergency personnel". If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
2M Sodium Acetate pH 4.0	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

<input checked="" type="checkbox"/> -Mercaptoethanol	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
Micro RNA Isolation Kit Isopropanol	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Chloroform: Isoamyl Alcohol	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Micro RNA Isolation Kit Denaturing Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
2M Sodium Acetate pH 4.0	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : <input checked="" type="checkbox"/> -Mercaptoethanol	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Micro RNA Isolation Kit Isopropanol	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Chloroform: Isoamyl Alcohol	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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SECTION 6: Accidental release measures

Micro RNA Isolation Kit Denaturing Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
2M Sodium Acetate pH 4.0	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	:  -Mercaptoethanol	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Micro RNA Isolation Kit Isopropanol		Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
Chloroform: Isoamyl Alcohol		Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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SECTION 7: Handling and storage

Advice on general occupational hygiene


Micro RNA Isolation Kit Denaturing Solution	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
2M Sodium Acetate pH 4.0	Put on appropriate personal protective equipment (see Section 8).
<input checked="" type="checkbox"/> -Mercaptoethanol	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Micro RNA Isolation Kit Isopropanol	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Chloroform: Isoamyl Alcohol	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Micro RNA Isolation Kit Denaturing Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
2M Sodium Acetate pH 4.0	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

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SECTION 7: Handling and storage

Storage

: -Mercaptoethanol

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Micro RNA Isolation Kit
Isopropanol

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Chloroform: Isoamyl
Alcohol

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Micro RNA Isolation Kit
Denaturing Solution

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Phenol pH 5.3 - 5.7
Equilibrated with 0.1 M
Succinic Acid

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

2M Sodium Acetate pH
4.0

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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SECTION 7: Handling and storage

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
β-Mercaptoethanol H2 E2	50 200	200 500
Micro RNA Isolation Kit Isopropanol P5c	5000	50000
Chloroform: Isoamyl Alcohol H2	50	200
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid H2	50	200

7.3 Specific end use(s)

Recommendations	: β-Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: β-Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Micro RNA Isolation Kit Isopropanol Propan-2-ol	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 1250 mg/m ³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 999 mg/m ³ 8 hours. TWA: 400 ppm 8 hours.
Chloroform: Isoamyl Alcohol Trichloromethane	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. TWA: 2 ppm 8 hours.

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SECTION 8: Exposure controls/personal protection

<p>3-Methylbutan-1-ol</p>	<p>TWA: 9.9 mg/m³ 8 hours. EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 458 mg/m³ 15 minutes. STEL: 125 ppm 15 minutes. TWA: 366 mg/m³ 8 hours. TWA: 100 ppm 8 hours.</p>
<p>Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Phenol</p>	<p>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. TWA: 2 ppm 8 hours. STEL: 16 mg/m³ 15 minutes. STEL: 4 ppm 15 minutes. TWA: 7.8 mg/m³ 8 hours.</p>
<p>2M Sodium Acetate pH 4.0 acetic acid</p>	<p>EU OEL (Europe, 2/2017). Notes: list of indicative occupational exposure limit values STEL: 20 ppm 15 minutes. STEL: 50 mg/m³ 15 minutes.</p>

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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SECTION 8: Exposure controls/personal protection

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state

: <input checked="" type="checkbox"/> -Mercaptoethanol	Liquid.
Micro RNA Isolation Kit	Liquid.
Isopropanol	
Chloroform: Isoamyl	Liquid.
Alcohol	
Micro RNA Isolation Kit	Liquid.
Denaturing Solution	
Phenol pH 5.3 - 5.7	Liquid.
Equilibrated with 0.1 M	
Succinic Acid	
2M Sodium Acetate pH	Liquid.
4.0	

Colour

: <input checked="" type="checkbox"/> -Mercaptoethanol	Colourless.
Micro RNA Isolation Kit	Colourless.
Isopropanol	
Chloroform: Isoamyl	Not available.
Alcohol	
Micro RNA Isolation Kit	Not available.
Denaturing Solution	
Phenol pH 5.3 - 5.7	Not available.
Equilibrated with 0.1 M	
Succinic Acid	
2M Sodium Acetate pH	Not available.
4.0	

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SECTION 9: Physical and chemical properties

Odour	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Characteristic. Alcohol-like. Not available. Not available. Not available. Not available.
Odour threshold	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Not available. Not available. Not available. Not available. Not available. Not available.
pH	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Not available. Not available. Not available. Not available. 5.3 to 5.7 4
Melting point/freezing point	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	-100°C -88.9°C -63.5°C Not available. 40.85°C Not available.
Initial boiling point and boiling range	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	157°C 82.5°C 61.17°C Not available. 181.75°C Not available.

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SECTION 9: Physical and chemical properties

Flash point	:	β-Mercaptoethanol	Closed cup: 74°C
			Open cup: 74°C
		Micro RNA Isolation Kit	Closed cup: 11.7°C
		Isopropanol	
		Chloroform: Isoamyl Alcohol	Open cup: 11.85°C [Tagliabue.] Not available.
		Micro RNA Isolation Kit Denaturing Solution	Not available.
		Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Closed cup: 61 to 93.3°C
Evaporation rate	:	β-Mercaptoethanol	Not available.
		Micro RNA Isolation Kit Isopropanol	1.7 (butyl acetate = 1)
		Chloroform: Isoamyl Alcohol	Not available.
		Micro RNA Isolation Kit Denaturing Solution	Not available.
		Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Not available.
		2M Sodium Acetate pH 4.0	Not available.
		Flammability (solid, gas)	:
Micro RNA Isolation Kit Isopropanol	Not applicable.		
Chloroform: Isoamyl Alcohol	Not applicable.		
Micro RNA Isolation Kit Denaturing Solution	Not applicable.		
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Not applicable.		
2M Sodium Acetate pH 4.0	Not applicable.		
Upper/lower flammability or explosive limits	:		
		Micro RNA Isolation Kit Isopropanol	Lower: 2% Upper: 12%
		Chloroform: Isoamyl Alcohol	Not available.
		Micro RNA Isolation Kit Denaturing Solution	Not available.
		Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Not available.
		2M Sodium Acetate pH 4.0	Not available.
		Vapour pressure	:
Micro RNA Isolation Kit Isopropanol	4.4 kPa [room temperature]		
Chloroform: Isoamyl Alcohol	Not available.		
Micro RNA Isolation Kit Denaturing Solution	Not available.		
Phenol pH 5.3 - 5.7	Not available.		
	Not available.		

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SECTION 9: Physical and chemical properties

		Equilibrated with 0.1 M Succinic Acid	
		2M Sodium Acetate pH 4.0	Not available.
Vapour density	:	<input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	2.7 [Air = 1] 2.07 [Air = 1] Not available. Not available. Not available. Not available.
Relative density	:	<input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	1.1 0.785 Not available. Not available. Not available.
Solubility(ies)	:	<input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Partially soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	<input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	-0.056 Not available. Not available. Not available. 1.48 Not available.
Auto-ignition temperature	:	<input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7	295°C 399°C Not available. Not available. Not available.

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SECTION 9: Physical and chemical properties

		Equilibrated with 0.1 M Succinic Acid	
		2M Sodium Acetate pH 4.0	Not available.
Decomposition temperature	:	β-Mercaptoethanol	Not available.
		Micro RNA Isolation Kit	Not available.
		Isopropanol	
		Chloroform: Isoamyl Alcohol	Not available.
		Micro RNA Isolation Kit Denaturing Solution	Not available.
		Phenol pH 5.3 - 5.7	Not available.
		Equilibrated with 0.1 M Succinic Acid	
		2M Sodium Acetate pH 4.0	Not available.
Viscosity	:	β-Mercaptoethanol	Dynamic (room temperature): 3.43 mPa·s
		Micro RNA Isolation Kit	Not available.
		Isopropanol	
		Chloroform: Isoamyl Alcohol	Not available.
		Micro RNA Isolation Kit Denaturing Solution	Not available.
		Phenol pH 5.3 - 5.7	Not available.
		Equilibrated with 0.1 M Succinic Acid	
		2M Sodium Acetate pH 4.0	Not available.
Explosive properties	:	β-Mercaptoethanol	Not available.
		Micro RNA Isolation Kit	Not available.
		Isopropanol	
		Chloroform: Isoamyl Alcohol	Not available.
		Micro RNA Isolation Kit Denaturing Solution	Not available.
		Phenol pH 5.3 - 5.7	Not available.
		Equilibrated with 0.1 M Succinic Acid	
		2M Sodium Acetate pH 4.0	Not available.
Oxidising properties	:	β-Mercaptoethanol	Not available.
		Micro RNA Isolation Kit	Not available.
		Isopropanol	
		Chloroform: Isoamyl Alcohol	Not available.
		Micro RNA Isolation Kit Denaturing Solution	Not available.
		Phenol pH 5.3 - 5.7	Not available.
		Equilibrated with 0.1 M Succinic Acid	
		2M Sodium Acetate pH 4.0	Not available.

9.2 Other information

No additional information.

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SECTION 10: Stability and reactivity

10.1 Reactivity	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	No specific data. Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas. No specific data. No specific data. No specific data. No specific data.

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SECTION 10: Stability and reactivity

10.5 Incompatible materials : -Mercaptoethanol May react or be incompatible with oxidising materials.
Micro RNA Isolation Kit Reactive or incompatible with the following materials:
Isopropanol oxidizing materials
Chloroform: Isoamyl Alcohol May react or be incompatible with oxidising materials.
Micro RNA Isolation Kit Denaturing Solution May react or be incompatible with oxidising materials.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid May react or be incompatible with oxidising materials.
2M Sodium Acetate pH 4.0 May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products : -Mercaptoethanol Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Micro RNA Isolation Kit Isopropanol Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Chloroform: Isoamyl Alcohol Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Micro RNA Isolation Kit Denaturing Solution Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Under normal conditions of storage and use, hazardous decomposition products should not be produced.
2M Sodium Acetate pH 4.0 Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<input checked="" type="checkbox"/> -Mercaptoethanol β-Mercaptoethanol	LD50 Dermal LD50 Oral	Rabbit Rat	167.1 mg/kg 244 mg/kg	- -
Micro RNA Isolation Kit Isopropanol Propan-2-ol	LD50 Dermal LD50 Oral	Rabbit Rat	12800 mg/kg 5000 mg/kg	- -
Chloroform: Isoamyl Alcohol Trichloromethane	LD50 Dermal LD50 Oral	Rabbit Rat	>20 g/kg 300 mg/kg	- -
3-Methylbutan-1-ol	LD50 Oral	Rat	1300 mg/kg	-
Micro RNA Isolation Kit Denaturing Solution Sodium N-lauroylsarcosinate	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.05 to 0.5 mg/l	4 hours
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Phenol	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Dermal LD50 Oral	Rat Rabbit Rat Rat	316 mg/m ³ 630 mg/kg 669 mg/kg 317 mg/kg	4 hours - - -

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Succinic acid	LD50 Oral	Rat	2260 mg/kg	-
2M Sodium Acetate pH 4.0 acetic acid	LC50 Inhalation Vapour	Rat	11000 mg/m ³	4 hours
	LD50 Dermal	Rabbit	1060 mg/kg	-
	LD50 Oral	Rat	3310 mg/kg	-

Acute toxicity estimates

Route	ATE value
Chloroform: Isoamyl Alcohol Oral Inhalation (vapours)	510.2 mg/kg 7.397 mg/l
Micro RNA Isolation Kit Denaturing Solution Oral Dermal Inhalation (dusts and mists)	1059.3 mg/kg 2330.5 mg/kg 2.412 mg/l
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Oral Dermal Inhalation (dusts and mists)	101.2 mg/kg 637.7 mg/kg 0.5061 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
β-Mercaptoethanol β-Mercaptoethanol	Eyes - Severe irritant	Rabbit	-	2 milligrams	-
Micro RNA Isolation Kit Isopropanol Propan-2-ol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Chloroform: Isoamyl Alcohol Trichloromethane	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
3-Methylbutan-1-ol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Phenol	Eyes - Severe irritant	Rabbit	-	5 milligrams	-
	Skin - Severe irritant	Rabbit	-	535 milligrams	-
Succinic acid	Eyes - Severe irritant	Rabbit	-	750 Micrograms	-
2M Sodium Acetate pH 4.0 acetic acid	Skin - Severe irritant	Rabbit	-	525 milligrams	-

Sensitiser

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Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
β-Mercaptoethanol β-Mercaptoethanol	Category 3	Not applicable.	Respiratory tract irritation
Micro RNA Isolation Kit Isopropanol Propan-2-ol	Category 3	Not applicable.	Narcotic effects
Chloroform: Isoamyl Alcohol 3-Methylbutan-1-ol	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Chloroform: Isoamyl Alcohol Trichloromethane	Category 1	Not determined	Not determined
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Phenol	Category 2	Not determined	Not determined

Aspiration hazard

Not available.

Information on likely routes of exposure

β-Mercaptoethanol Routes of entry anticipated: Oral, Dermal, Inhalation.
Micro RNA Isolation Kit Isopropanol Routes of entry anticipated: Oral, Dermal, Inhalation.
Chloroform: Isoamyl Alcohol Routes of entry anticipated: Oral, Dermal, Inhalation.
Micro RNA Isolation Kit Denaturing Solution Routes of entry anticipated: Oral, Dermal, Inhalation.
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Routes of entry anticipated: Oral, Dermal, Inhalation.
2M Sodium Acetate pH 4.0 Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Inhalation

β-Mercaptoethanol Fatal if inhaled. May cause respiratory irritation.
Micro RNA Isolation Kit Isopropanol Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Chloroform: Isoamyl Alcohol Toxic if inhaled.
Micro RNA Isolation Kit Denaturing Solution Harmful if inhaled.
Phenol pH 5.3 - 5.7 Toxic if inhaled.

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	Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	No known significant effects or critical hazards.
Ingestion	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Toxic if swallowed. Can cause central nervous system (CNS) depression. Harmful if swallowed. Harmful if swallowed. Toxic if swallowed. Corrosive to the digestive tract. Causes burns. No known significant effects or critical hazards.
Skin contact	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Fatal in contact with skin. Causes skin irritation. May cause an allergic skin reaction. No known significant effects or critical hazards. Causes skin irritation. No known significant effects or critical hazards. Causes severe burns. Toxic in contact with skin. No known significant effects or critical hazards.
Eye contact	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Causes serious eye damage. Causes serious eye irritation. Causes serious eye irritation. No known significant effects or critical hazards. Causes serious eye damage. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: <input checked="" type="checkbox"/> -Mercaptoethanol	Adverse symptoms may include the following: respiratory tract irritation coughing
	Micro RNA Isolation Kit Isopropanol	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
	Chloroform: Isoamyl Alcohol	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
	Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7	No specific data. No specific data.

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SECTION 11: Toxicological information

	Equilibrated with 0.1 M Succinic Acid	
	2M Sodium Acetate pH 4.0	No specific data.
Ingestion	: <input checked="" type="checkbox"/> -Mercaptoethanol	Adverse symptoms may include the following: stomach pains
	Micro RNA Isolation Kit Isopropanol	No specific data.
	Chloroform: Isoamyl Alcohol	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
	Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	No specific data.
	2M Sodium Acetate pH 4.0	Adverse symptoms may include the following: stomach pains
Skin contact	: <input checked="" type="checkbox"/> -Mercaptoethanol	No specific data.
	Micro RNA Isolation Kit Isopropanol	Adverse symptoms may include the following: pain or irritation redness blistering may occur
	Chloroform: Isoamyl Alcohol	No specific data.
	Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Adverse symptoms may include the following: irritation redness reduced foetal weight increase in foetal deaths skeletal malformations
	2M Sodium Acetate pH 4.0	No specific data.
Eye contact	: <input checked="" type="checkbox"/> -Mercaptoethanol	Adverse symptoms may include the following: pain or irritation redness blistering may occur
	Micro RNA Isolation Kit Isopropanol	No specific data.
	Chloroform: Isoamyl Alcohol	Adverse symptoms may include the following: pain or irritation watering redness
	Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7	Adverse symptoms may include the following:

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SECTION 11: Toxicological information

Equilibrated with 0.1 M
Succinic Acid

pain
watering
redness
No specific data.

2M Sodium Acetate pH
4.0

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. No known significant effects or critical hazards. Causes damage to organs through prolonged or repeated exposure. No known significant effects or critical hazards. May cause damage to organs through prolonged or repeated exposure. No known significant effects or critical hazards.
Carcinogenicity	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	No known significant effects or critical hazards. No known significant effects or critical hazards. Suspected of causing cancer. Risk of cancer depends on duration and level of exposure. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. Suspected of causing genetic defects. No known significant effects or critical hazards.

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SECTION 11: Toxicological information

Teratogenicity	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	No known significant effects or critical hazards. No known significant effects or critical hazards. Suspected of damaging the unborn child. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Other information	: <input checked="" type="checkbox"/> -Mercaptoethanol Micro RNA Isolation Kit Isopropanol Chloroform: Isoamyl Alcohol Micro RNA Isolation Kit Denaturing Solution Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid 2M Sodium Acetate pH 4.0	Not available. Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking. Adverse symptoms may include the following: jaundice, nausea or vomiting. Repeated exposure may cause skin dryness or cracking. Not available. Adverse symptoms may include the following: diarrhoea, headache, nausea or vomiting, pulmonary oedema, skin rash or hives. Not available.

SECTION 12: Ecological information

12.1 Toxicity

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SECTION 12: Ecological information

Product/ingredient name	Result	Species	Exposure
Micro RNA Isolation Kit Isopropanol Propan-2-ol	Acute EC50 10100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
Chloroform: Isoamyl Alcohol Trichloromethane	Acute EC50 13.3 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute EC50 2.803 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 29000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 13.3 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic EC10 3.61 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
Micro RNA Isolation Kit Denaturing Solution Sodium N-lauroylsarcosinate	Chronic NOEC 1.8 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 29 mg/l Fresh water	Algae	72 hours
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Phenol	Acute EC50 29.7 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 107 mg/l Fresh water	Fish	96 hours
	Acute NOEC 9.2 mg/l Fresh water	Algae	72 hours
	Acute NOEC 5 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 50 mg/l Fresh water	Fish	96 hours
	Acute EC50 61.1 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 36 mg/l Marine water	Algae - Hormosira banksii - Gamete	72 hours
	Acute EC50 94 mg/l Fresh water	Aquatic plants - Lemna aequinoctialis	96 hours
	Acute EC50 4200 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 800 µg/l Marine water	Crustaceans - Archaeomysis kokuboi - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
Succinic acid	Acute LC50 1555 µg/l Fresh water	Fish - Cirrhinus mrigala - Larvae	96 hours
	Chronic NOEC 16 µg/l Marine water	Algae - Hormosira banksii - Gamete	72 hours
	Chronic NOEC 1.5 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 118 µg/l Fresh water	Fish - Oncorhynchus mykiss	90 days
	Acute EC50 >100 mg/l Fresh water	Algae	72 hours
	Acute EC50 374200 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 >100 mg/l Fresh water	Fish	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae	72 hours
2M Sodium Acetate pH 4.0 acetic acid	Acute NOEC 23 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 100 mg/l Fresh water	Fish	96 hours
	Acute EC50 73400 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 65000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours

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SECTION 12: Ecological information

	Acute LC50 75000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
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12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<input checked="" type="checkbox"/> β-Mercaptoethanol β-Mercaptoethanol	OECD 310 Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)	69 % - Inherent - 60 days	20 mg/l	-
Micro RNA Isolation Kit Denaturing Solution Sodium N-lauroylsarcosinate	-	82 % - Readily - 28 days	-	-
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Succinic acid	OECD 301E Ready Biodegradability - Modified OECD Screening Test	96.55 % - Readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<input checked="" type="checkbox"/> Micro RNA Isolation Kit Isopropanol Propan-2-ol	-	-	Readily
Chloroform: Isoamyl Alcohol Trichloromethane	-	-	Not readily
Micro RNA Isolation Kit Denaturing Solution Sodium N-lauroylsarcosinate	-	-	Readily
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Succinic acid	-	-	Readily
2M Sodium Acetate pH 4.0 acetic acid	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
<input checked="" type="checkbox"/> β-Mercaptoethanol β-Mercaptoethanol	-0.056	-	low
Micro RNA Isolation Kit Isopropanol Propan-2-ol	0.05	-	low
Chloroform: Isoamyl			

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Alcohol			
Trichloromethane	1.97	690	high
3-Methylbutan-1-ol	1.35	-	low
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid			
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	1.48	-	low
Phenol	1.47	647	high
Succinic acid	-0.59	-	low
2M Sodium Acetate pH 4.0			
acetic acid	-0.17	3.16	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.


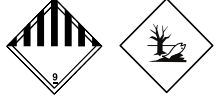

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

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SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	UN3316	UN3316	UN3316
14.2 UN proper shipping name	CHEMICAL KIT	CHEMICAL KIT	Chemical kit
14.3 Transport hazard class(es)	9 	9 	9 
14.4 Packing group	II	II	II
14.5 Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

ADR/RID

- : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- Hazard identification number** 90
- Limited quantity** See SP 251
- Special provisions** 251, 340
- Tunnel code** (E)

IMDG

- : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- Emergency schedules** F-A, _S-P_
- Special provisions** 251, 340

IATA

- : The environmentally hazardous substance mark may appear if required by other transportation regulations.
- Quantity limitation** Passenger and Cargo Aircraft: 10 kg. Packaging instructions: 960. Cargo Aircraft Only: 10 kg. Packaging instructions: 960. Limited Quantities - Passenger Aircraft: 1 kg. Packaging instructions: Y960.
- Special provisions** A44, A163

14.6 Special precautions for user

- : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

- : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	β-Mercaptoethanol	Not applicable.
	Micro RNA Isolation Kit	Not applicable.
	Isopropanol	
	Chloroform: Isoamyl Alcohol	For use in industrial installations only.
	Micro RNA Isolation Kit	Not applicable.
	Denaturing Solution	
	Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid	Not applicable.
	2M Sodium Acetate pH 4.0	Not applicable.

Other EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Ingredient name	Annex	Status
Chloroform: Isoamyl Alcohol Chloroform	Annex I - Part 1	Listed

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
β-Mercaptoethanol H2 E2
Micro RNA Isolation Kit Isopropanol P5c
Chloroform: Isoamyl Alcohol H2
Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid H2

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.

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SECTION 15: Regulatory information

Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Europe	: All components are listed or exempted.
Japan	: Japan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL) : All components are listed or exempted.
Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: Not determined.
United States	: All components are listed or exempted.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	: ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement PNEC = Predicted No Effect Concentration RRN = REACH Registration Number
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Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
<input checked="" type="checkbox"/> B-Mercaptoethanol Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411	On basis of test data On basis of test data On basis of test data Expert judgment Expert judgment Expert judgment Expert judgment Expert judgment
Micro RNA Isolation Kit Isopropanol Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	On basis of test data Calculation method Calculation method
Chloroform: Isoamyl Alcohol Acute Tox. 4, H302 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 Repr. 2, H361d (Unborn child) STOT RE 1, H372	Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method
Micro RNA Isolation Kit Denaturing Solution Acute Tox. 4, H302	Calculation method

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Acute Tox. 4, H332
Aquatic Chronic 3, H412

Calculation method
Calculation method

Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid

Acute Tox. 3, H301
Acute Tox. 3, H311
Acute Tox. 3, H331
Skin Corr. 1B, H314
Muta. 2, H341
STOT RE 2, H373

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

[Full text of abbreviated H statements](#)

B-Mercaptoethanol

H301
H310
H315
H317
H318
H330
H335
H411

Toxic if swallowed.
Fatal in contact with skin.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Fatal if inhaled.
May cause respiratory irritation.
Toxic to aquatic life with long lasting effects.

Micro RNA Isolation Kit Isopropanol

H225
H319
H336

Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Chloroform: Isoamyl Alcohol

H226
H302
H315
H319
H331
H332
H335
H351
H361d
H372

Flammable liquid and vapour.
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
Toxic if inhaled.
Harmful if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
Suspected of damaging the unborn child.
Causes damage to organs through prolonged or repeated exposure.

Micro RNA Isolation Kit Denaturing Solution

H302
H312
H315
H318
H330
H332
H412

Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye damage.
Fatal if inhaled.
Harmful if inhaled.
Harmful to aquatic life with long lasting effects.

Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid

H301
H311
H314
H319
H331
H341
H373

Toxic if swallowed.
Toxic in contact with skin.
Causes severe skin burns and eye damage.
Causes serious eye irritation.
Toxic if inhaled.
Suspected of causing genetic defects.
May cause damage to organs through prolonged or repeated exposure.

2M Sodium Acetate pH 4.0

H226
H314

Flammable liquid and vapour.
Causes severe skin burns and eye damage.

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SECTION 16: Other information

Full text of classifications [CLP/GHS]

<p>β-Mercaptoethanol Acute Tox. 2, H310 Acute Tox. 2, H330 Acute Tox. 3, H301 Aquatic Chronic 2, H411 Eye Dam. 1, H318 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335</p>	<p>ACUTE TOXICITY (dermal) - Category 2 ACUTE TOXICITY (inhalation) - Category 2 ACUTE TOXICITY (oral) - Category 3 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITISATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p>
<p>Micro RNA Isolation Kit Isopropanol Eye Irrit. 2, H319 Flam. Liq. 2, H225 STOT SE 3, H336</p>	<p>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3</p>
<p>Chloroform: Isoamyl Alcohol Acute Tox. 3, H331 Acute Tox. 4, H302 Acute Tox. 4, H332 Carc. 2, H351 EUH066 Eye Irrit. 2, H319 Flam. Liq. 3, H226 Repr. 2, H361d Skin Irrit. 2, H315 STOT RE 1, H372 STOT SE 3, H335</p>	<p>ACUTE TOXICITY (inhalation) - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2 Repeated exposure may cause skin dryness or cracking. SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 3 REPRODUCTIVE TOXICITY (Unborn child) - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p>
<p>Micro RNA Isolation Kit Denaturing Solution Acute Tox. 2, H330 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Aquatic Chronic 3, H412 EUH032 Eye Dam. 1, H318 Skin Irrit. 2, H315</p>	<p>ACUTE TOXICITY (inhalation) - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 Contact with acids liberates very toxic gas. SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN CORROSION/IRRITATION - Category 2</p>
<p>Phenol pH 5.3 - 5.7 Equilibrated with 0.1 M Succinic Acid Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Eye Irrit. 2, H319 Muta. 2, H341 Skin Corr. 1B, H314 STOT RE 2, H373</p>	<p>ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 GERM CELL MUTAGENICITY - Category 2 SKIN CORROSION/IRRITATION - Category 1B SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2</p>
<p>2M Sodium Acetate pH 4.0 Flam. Liq. 3, H226 Skin Corr. 1A, H314</p>	<p>FLAMMABLE LIQUIDS - Category 3 SKIN CORROSION/IRRITATION - Category 1A</p>

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Date of previous issue : 14/09/2016

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SECTION 16: Other information

Version : 2

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