SAFETY DATA SHEET

Agilent Technologies

Absolutely RNA Nanoprep Kit, Part Number 400753

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

1.1 Product identifier

Product name : Absolutely RNA Nanoprep Kit, Part Number 400753

CAS number :

RNase-Free DNase I (Lyophilized)	-
ß-Mercaptoethanol	60-24-2
Lysis Buffer	Not applicable.
1.67X High Salt Wash Buffer	Not applicable.
5x Low Salt Wash Buffer	Not applicable.
Elution Buffer	Not applicable.
DNase Reconstitution Buffer	Not applicable.
DNase Digestion Buffer	Not applicable.

Part no. (chemical kit) : 400753

Part no. :

RNase-Free DNase I (Lyophilized)	400711-23
ß-Mercaptoethanol	200345-21
Lysis Buffer	400711-13
1.67X High Salt Wash Buffer	400711-14
5x Low Salt Wash Buffer	400711-15
Elution Buffer	400752-16
DNase Reconstitution Buffer	400711-17
DNase Digestion Buffer	400711-18

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

Identified uses : Analytical reagent.
For research use only.

RNase-Free DNase I (Lyophilized)	2600 U
ß-Mercaptoethanol	0.75 ml (750 µl 14.33 M)
Lysis Buffer	35 ml
1.67X High Salt Wash Buffer	24 ml
5x Low Salt Wash Buffer	17 ml
Elution Buffer	3 ml
DNase Reconstitution Buffer	0.3 ml
DNase Digestion Buffer	1.5 ml

Uses advised against : Not for use in diagnostic procedures.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Deutschland GmbH
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 : RNase-Free DNase I (Lyophilized) — UVCB
ß-Mercaptoethanol — Mono-constituent substance
Lysis Buffer — Mixture
1.67X High Salt Wash Buffer — Mixture
5x Low Salt Wash Buffer — Mixture
Elution Buffer — Mixture
DNase Reconstitution Buffer — Mixture
DNase Digestion Buffer — Mixture

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

ß-Mercaptoethanol

H301	ACUTE TOXICITY (oral)	Category 3
H310	ACUTE TOXICITY (dermal)	Category 2
H331	ACUTE TOXICITY (inhalation)	Category 3
H315	SKIN CORROSION/IRRITATION	Category 2
H318	SERIOUS EYE DAMAGE/EYE IRRITATION	Category 1
H317	SKIN SENSITISATION	Category 1A
H361f	REPRODUCTIVE TOXICITY	Category 2
H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Category 2
H400	SHORT-TERM (ACUTE) AQUATIC HAZARD	Category 1
H411	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 2

Lysis Buffer

H302	ACUTE TOXICITY (oral)	Category 4
H314	SKIN CORROSION/IRRITATION	Category 1C
H412	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 3

1.67X High Salt Wash Buffer

H302	ACUTE TOXICITY (oral)	Category 4
H314	SKIN CORROSION/IRRITATION	Category 1C
H412	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 3

DNase Digestion Buffer

H226	FLAMMABLE LIQUIDS	Category 3

RNase-Free DNase I (Lyophilized)	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
ß-Mercaptoethanol	The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Lysis Buffer	The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
1.67X High Salt Wash Buffer	The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
5x Low Salt Wash Buffer	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Elution Buffer	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
DNase Reconstitution Buffer	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
DNase Digestion Buffer	The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

SECTION 2: Hazards identification

Ingredients of unknown toxicity :

1.67X High Salt Wash Buffer	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
DNase Reconstitution Buffer	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
DNase Digestion Buffer	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%

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.

2.2 Label elements

Hazard pictograms :

ß-Mercaptoethanol

Lysis Buffer

1.67X High Salt Wash Buffer

DNase Digestion Buffer

Signal word :

RNase-Free DNase I (Lyophilized)	No signal word.
ß-Mercaptoethanol	Danger
Lysis Buffer	Danger
1.67X High Salt Wash Buffer	Danger
5x Low Salt Wash Buffer	No signal word.
Elution Buffer	No signal word.
DNase Reconstitution Buffer	No signal word.
DNase Digestion Buffer	Warning

Hazard statements :

RNase-Free DNase I (Lyophilized)	No known significant effects or critical hazards.
ß-Mercaptoethanol	H301 + H331 - Toxic if swallowed or if inhaled. H310 - Fatal in contact with skin. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H361f - Suspected of damaging fertility. H373 - May cause damage to organs through prolonged or repeated exposure. (heart, liver) H410 - Very toxic to aquatic life with long lasting effects.
Lysis Buffer	H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H412 - Harmful to aquatic life with long lasting effects.
1.67X High Salt Wash Buffer	H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H412 - Harmful to aquatic life with long lasting effects.
5x Low Salt Wash Buffer	No known significant effects or critical hazards.
Elution Buffer	No known significant effects or critical hazards.

SECTION 2: Hazards identification

	DNase Reconstitution Buffer	No known significant effects or critical hazards.
	DNase Digestion Buffer	H226 - Flammable liquid and vapour.

Precautionary statements

Prevention :

RNase-Free DNase I (Lyophilized)	Not applicable.
ß-Mercaptoethanol	P280 - Wear protective gloves, protective clothing and 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.
Lysis Buffer	P280 - Wear protective gloves, protective clothing and eye or face protection.
1.67X High Salt Wash Buffer	P280 - Wear protective gloves, protective clothing and eye or face protection.
5x Low Salt Wash Buffer	Not applicable.
Elution Buffer	Not applicable.
DNase Reconstitution Buffer	Not applicable.
DNase Digestion Buffer	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response :

RNase-Free DNase I (Lyophilized)	Not applicable.
ß-Mercaptoethanol	P391 - Collect spillage.
Lysis Buffer	P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor. P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
1.67X High Salt Wash Buffer	P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor. P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
5x Low Salt Wash Buffer	Not applicable.
Elution Buffer	Not applicable.
DNase Reconstitution Buffer	Not applicable.
DNase Digestion Buffer	Not applicable.

Storage :

RNase-Free DNase I (Lyophilized)	Not applicable.
ß-Mercaptoethanol	Not applicable.
Lysis Buffer	Not applicable.
1.67X High Salt Wash Buffer	Not applicable.
5x Low Salt Wash Buffer	Not applicable.
Elution Buffer	Not applicable.
DNase Reconstitution Buffer	Not applicable.
DNase Digestion Buffer	Not applicable.

Disposal :

RNase-Free DNase I (Lyophilized)	Not applicable.
ß-Mercaptoethanol	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Lysis Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
1.67X High Salt Wash Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

SECTION 2: Hazards identification

	5x Low Salt Wash Buffer	Not applicable.
	Elution Buffer	Not applicable.
	DNase Reconstitution Buffer	Not applicable.
	DNase Digestion Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients :	Lysis Buffer	salts of thiocyanic acid
	1.67X High Salt Wash Buffer	salts of thiocyanic acid
Supplemental label elements :	RNase-Free DNase I (Lyophilized)	Not applicable.
	ß-Mercaptoethanol	Not applicable.
	Lysis Buffer	Not applicable.
	1.67X High Salt Wash Buffer	Not applicable.
	5x Low Salt Wash Buffer	Not applicable.
	Elution Buffer	Not applicable.
	DNase Reconstitution Buffer	Not applicable.
	DNase Digestion Buffer	Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles :	RNase-Free DNase I (Lyophilized)	Not applicable.
	ß-Mercaptoethanol	Not applicable.
	Lysis Buffer	Not applicable.
	1.67X High Salt Wash Buffer	Not applicable.
	5x Low Salt Wash Buffer	Not applicable.
	Elution Buffer	Not applicable.
	DNase Reconstitution Buffer	Not applicable.
	DNase Digestion Buffer	Not applicable.

Special packaging requirements

Tactile warning of danger :	RNase-Free DNase I (Lyophilized)	Not applicable.
	ß-Mercaptoethanol	Not applicable.
	Lysis Buffer	Not applicable.
	1.67X High Salt Wash Buffer	Not applicable.
	5x Low Salt Wash Buffer	Not applicable.
	Elution Buffer	Not applicable.
	DNase Reconstitution Buffer	Not applicable.
	DNase Digestion Buffer	Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

PBT	P	B	T	vPvB	vP	vB
RNase-Free DNase I (Lyophilized)						
N/A	N/A	N/A	N/A	N/A	N/A	N/A
ß-Mercaptoethanol						
N/A	N/A	N/A	Yes	N/A	N/A	N/A

SECTION 2: Hazards identification

	Lysis Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	1.67X High Salt Wash Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	5x Low Salt Wash Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	Elution Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	DNase Reconstitution Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	DNase Digestion Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Other hazards which do not result in classification :	RNase-Free DNase I (Lyophilized)	May form combustible dust concentrations in air.
	ß-Mercaptoethanol	None known.
	Lysis Buffer	Causes digestive tract burns.
	1.67X High Salt Wash Buffer	Causes digestive tract burns.
	5x Low Salt Wash Buffer	None known.
	Elution Buffer	None known.
	DNase Reconstitution Buffer	None known.
	DNase Digestion Buffer	None known.

SECTION 3: Composition/information on ingredients

3.1 Substances :	RNase-Free DNase I (Lyophilized)	UVCB
	ß-Mercaptoethanol	Mono-constituent substance
	Lysis Buffer	Mixture
	1.67X High Salt Wash Buffer	Mixture
	5x Low Salt Wash Buffer	Mixture
	Elution Buffer	Mixture
	DNase Reconstitution Buffer	Mixture
	DNase Digestion Buffer	Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
RNase-Free DNase I (Lyophilized)					
Enzyme.	-	100	Not classified.	-	[*]
ß-Mercaptoethanol					
2-mercaptoethanol	EC: 200-464-6 CAS: 60-24-2	100	Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317 Repr. 2, H361f STOT RE 2, H373 (heart, liver) Aquatic Acute 1, H400 Aquatic Chronic 2, H411	ATE [Oral] = 244 mg/kg ATE [Dermal] = 200 mg/kg ATE [Inhalation (vapours)] = 3 mg/l M [Acute] = 1	[1]
Lysis Buffer					
salts of thiocyanic acid	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	ATE [Oral] = 593 mg/kg ATE [Dermal] =	[1]

SECTION 3: Composition/information on ingredients

			Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412 EUH032 EUH071	1100 mg/kg ATE [Inhalation (dusts and mists)] = 3.181 mg/l	
1.67X High Salt Wash Buffer					
salts of thiocyanic acid	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 Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412 EUH032 EUH071	ATE [Oral] = 593 mg/kg ATE [Dermal] = 1100 mg/kg ATE [Inhalation (dusts and mists)] = 3.181 mg/l	[1]
DNase Reconstitution Buffer					
glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	-	[1]
DNase Digestion Buffer					
ethanol	EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5	≥25 - <50	Flam. Liq. 2, H225 Eye Irrit. 2, H319	Eye Irrit. 2, H319: C ≥ 50%	[1] [2]
manganese dichloride	EC: 231-869-6 CAS: 7773-01-5	≤0.3	Acute Tox. 3, H301 Eye Dam. 1, H318 STOT RE 2, H373 (brain) Aquatic Chronic 2, H411 **See Section 16 for the full text of the H statements declared above.**	ATE [Oral] = 250 mg/kg	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

RNase-Free DNase I (Lyophilized) [*] Substance
ß-Mercaptoethanol [1] Constituent
Lysis Buffer [1] Substance classified with a health or environmental hazard
1.67X High Salt Wash Buffer [1] Substance classified with a health or environmental hazard
DNase Reconstitution Buffer [1] Substance with a workplace exposure limit
DNase Digestion Buffer [1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	:	RNase-Free DNase I (Lyophilized)	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.
		ß-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.
		Lysis Buffer	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.
		1.67X High Salt Wash Buffer	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.
		5x Low Salt Wash Buffer	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.
		Elution Buffer	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.
		DNase Reconstitution Buffer	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.
		DNase Digestion Buffer	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	:	RNase-Free DNase I (Lyophilized)	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		ß-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.
		Lysis Buffer	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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical

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			surveillance for 48 hours.
		1.67X High Salt Wash Buffer	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. 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.
		5x Low Salt Wash Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Elution Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		DNase Reconstitution Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		DNase Digestion Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
Skin contact	:	RNase-Free DNase I (Lyophilized)	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		ß-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.
		Lysis Buffer	Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of 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. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		1.67X High Salt Wash Buffer	Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of 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. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		5x Low Salt Wash Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Elution Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

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		DNase Reconstitution Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		DNase Digestion Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	RNase-Free DNase I (Lyophilized)	Wash out mouth with water. 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.
		ß-Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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.
		Lysis Buffer	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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.
		1.67X High Salt Wash Buffer	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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.
		5x Low Salt Wash Buffer	Wash out mouth with water. 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.
		Elution Buffer	Wash out mouth with water. 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.
		DNase Reconstitution Buffer	Wash out mouth with water. 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

SECTION 4: First aid measures

			symptoms occur.
		DNase Digestion Buffer	Wash out mouth with water. 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.
Protection of first-aiders	:	RNase-Free DNase I (Lyophilized)	No action shall be taken involving any personal risk or without suitable training.
		ß-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.
		Lysis Buffer	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.
		1.67X High Salt Wash Buffer	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.
		5x Low Salt Wash Buffer	No action shall be taken involving any personal risk or without suitable training.
		Elution Buffer	No action shall be taken involving any personal risk or without suitable training.
		DNase Reconstitution Buffer	No action shall be taken involving any personal risk or without suitable training.
		DNase Digestion Buffer	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

Eye contact	:	RNase-Free DNase I (Lyophilized)	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
		ß-Mercaptoethanol	Causes serious eye damage.
		Lysis Buffer	Causes serious eye damage.
		1.67X High Salt Wash Buffer	Causes serious eye damage.
		5x Low Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		DNase Reconstitution Buffer	No known significant effects or critical hazards.
		DNase Digestion Buffer	No known significant effects or critical hazards.
Inhalation	:	RNase-Free DNase I (Lyophilized)	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
		ß-Mercaptoethanol	Toxic if inhaled.
		Lysis Buffer	No known significant effects or critical hazards.
		1.67X High Salt Wash Buffer	No known significant effects or critical hazards.
		5x Low Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		DNase Reconstitution Buffer	No known significant effects or critical hazards.

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		DNase Digestion Buffer	No known significant effects or critical hazards.
Skin contact	:	RNase-Free DNase I (Lyophilized)	No known significant effects or critical hazards.
		ß-Mercaptoethanol	Fatal in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
		Lysis Buffer	Causes severe burns.
		1.67X High Salt Wash Buffer	Causes severe burns.
		5x Low Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		DNase Reconstitution Buffer	No known significant effects or critical hazards.
		DNase Digestion Buffer	No known significant effects or critical hazards.
Ingestion	:	RNase-Free DNase I (Lyophilized)	No known significant effects or critical hazards.
		ß-Mercaptoethanol	Toxic if swallowed.
		Lysis Buffer	Harmful if swallowed. Corrosive to the digestive tract. Causes burns.
		1.67X High Salt Wash Buffer	Harmful if swallowed. Corrosive to the digestive tract. Causes burns.
		5x Low Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		DNase Reconstitution Buffer	No known significant effects or critical hazards.
		DNase Digestion Buffer	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	RNase-Free DNase I (Lyophilized)	Adverse symptoms may include the following: irritation redness
		ß-Mercaptoethanol	Adverse symptoms may include the following: pain watering redness
		Lysis Buffer	Adverse symptoms may include the following: pain watering redness
		1.67X High Salt Wash Buffer	Adverse symptoms may include the following: pain watering redness
		5x Low Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		DNase Reconstitution Buffer	No specific data.
		DNase Digestion Buffer	No specific data.
Inhalation	:	RNase-Free DNase I (Lyophilized)	Adverse symptoms may include the following: respiratory tract irritation coughing
		ß-Mercaptoethanol	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		Lysis Buffer	No specific data.
		1.67X High Salt Wash Buffer	No specific data.
		5x Low Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		DNase Reconstitution	No specific data.

SECTION 4: First aid measures

		Buffer	
		DNase Digestion Buffer	No specific data.
Skin contact	:	RNase-Free DNase I (Lyophilized)	No specific data.
		ß-Mercaptoethanol	Adverse symptoms may include the following: pain or irritation redness blistering may occur reduced foetal weight increase in foetal deaths skeletal malformations
		Lysis Buffer	Adverse symptoms may include the following: pain or irritation redness blistering may occur
		1.67X High Salt Wash Buffer	Adverse symptoms may include the following: pain or irritation redness blistering may occur
		5x Low Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		DNase Reconstitution Buffer	No specific data.
		DNase Digestion Buffer	No specific data.
Ingestion	:	RNase-Free DNase I (Lyophilized)	No specific data.
		ß-Mercaptoethanol	Adverse symptoms may include the following: stomach pains reduced foetal weight increase in foetal deaths skeletal malformations
		Lysis Buffer	Adverse symptoms may include the following: stomach pains
		1.67X High Salt Wash Buffer	Adverse symptoms may include the following: stomach pains
		5x Low Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		DNase Reconstitution Buffer	No specific data.
		DNase Digestion Buffer	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	RNase-Free DNase I (Lyophilized)	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		ß-Mercaptoethanol	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Lysis Buffer	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.
		1.67X High Salt Wash Buffer	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.
		5x Low Salt Wash Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Elution Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		DNase Reconstitution Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		DNase Digestion Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need

SECTION 4: First aid measures

			to be kept under medical surveillance for 48 hours.
Specific treatments	:	RNase-Free DNase I (Lyophilized)	No specific treatment.
		ß-Mercaptoethanol	No specific treatment.
		Lysis Buffer	No specific treatment.
		1.67X High Salt Wash Buffer	No specific treatment.
		5x Low Salt Wash Buffer	No specific treatment.
		Elution Buffer	No specific treatment.
		DNase Reconstitution Buffer	No specific treatment.
		DNase Digestion Buffer	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	RNase-Free DNase I (Lyophilized)	Use dry chemical powder.
		ß-Mercaptoethanol	Use an extinguishing agent suitable for the surrounding fire.
		Lysis Buffer	Use an extinguishing agent suitable for the surrounding fire.
		1.67X High Salt Wash Buffer	Use an extinguishing agent suitable for the surrounding fire.
		5x Low Salt Wash Buffer	Use an extinguishing agent suitable for the surrounding fire.
		Elution Buffer	Use an extinguishing agent suitable for the surrounding fire.
		DNase Reconstitution Buffer	Use an extinguishing agent suitable for the surrounding fire.
		DNase Digestion Buffer	Use dry chemical, CO_2, water spray (fog) or foam.
Unsuitable extinguishing media	:	RNase-Free DNase I (Lyophilized)	Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.
		ß-Mercaptoethanol	None known.
		Lysis Buffer	None known.
		1.67X High Salt Wash Buffer	None known.
		5x Low Salt Wash Buffer	None known.
		Elution Buffer	None known.
		DNase Reconstitution Buffer	None known.
		DNase Digestion Buffer	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	:	RNase-Free DNase I (Lyophilized)	May form explosible dust-air mixture if dispersed.
		ß-Mercaptoethanol	In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life. 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.
		Lysis Buffer	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.
		1.67X High Salt Wash Buffer	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.
		5x Low Salt Wash Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
		Elution Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
		DNase Reconstitution	In a fire or if heated, a pressure increase will occur and the

SECTION 5: Firefighting measures

	Buffer	container may burst.
	DNase Digestion Buffer	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.
Hazardous combustion products :	RNase-Free DNase I (Lyophilized)	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	ß-Mercaptoethanol	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	Lysis Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
	1.67X High Salt Wash Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds
	5x Low Salt Wash Buffer	No specific data.
	Elution Buffer	No specific data.
	DNase Reconstitution Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	DNase Digestion Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

Special precautions for fire-fighters :	RNase-Free DNase I (Lyophilized)	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.
	ß-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.
	Lysis Buffer	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.
	1.67X High Salt Wash Buffer	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.
	5x Low Salt Wash Buffer	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.
	Elution Buffer	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.
	DNase Reconstitution Buffer	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.
	DNase Digestion Buffer	Promptly isolate the scene by removing all persons from the

SECTION 5: Firefighting measures

		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.
Special protective equipment for fire-fighters	: RNase-Free DNase I (Lyophilized)	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.
	ß-Mercaptoethanol	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.
	Lysis Buffer	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.
	1.67X High Salt Wash Buffer	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.
	5x Low Salt Wash Buffer	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.
	Elution Buffer	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.
	DNase Reconstitution Buffer	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.
	DNase Digestion Buffer	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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: RNase-Free DNase I (Lyophilized)	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 dust. Put on appropriate personal protective equipment.
	ß-Mercaptoethanol	No action shall be taken involving any personal risk or

SECTION 6: Accidental release measures

			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.
		Lysis Buffer	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.
		1.67X High Salt Wash Buffer	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.
		5x Low Salt Wash Buffer	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.
		Elution Buffer	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.
		DNase Reconstitution Buffer	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.
		DNase Digestion Buffer	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. Put on appropriate personal protective equipment.
For emergency responders	:	RNase-Free DNase I (Lyophilized)	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".
		ß-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".
		Lysis Buffer	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".
		1.67X High Salt Wash Buffer	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".
		5x Low Salt Wash Buffer	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".
		Elution Buffer	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-

SECTION 6: Accidental release measures

			emergency personnel".
		DNase Reconstitution Buffer	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".
		DNase Digestion Buffer	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	:	RNase-Free DNase I (Lyophilized)	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).
		ß-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.
		Lysis Buffer	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.
		1.67X High Salt Wash Buffer	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.
		5x Low Salt Wash Buffer	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).
		Elution Buffer	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).
		DNase Reconstitution Buffer	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).
		DNase Digestion Buffer	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	:	RNase-Free DNase I (Lyophilized)	Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.
		ß-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.
		Lysis Buffer	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

SECTION 6: Accidental release measures

	of via a licensed waste disposal contractor.
1.67X High Salt Wash Buffer	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.
5x Low Salt Wash Buffer	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.
Elution Buffer	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.
DNase Reconstitution Buffer	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.
DNase Digestion Buffer	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.

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	: RNase-Free DNase I (Lyophilized)	Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material.
	ß-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. 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. 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.
	Lysis Buffer	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not

SECTION 7: Handling and storage

		breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.
	1.67X High Salt Wash Buffer	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.
	5x Low Salt Wash Buffer	Put on appropriate personal protective equipment (see Section 8).
	Elution Buffer	Put on appropriate personal protective equipment (see Section 8).
	DNase Reconstitution Buffer	Put on appropriate personal protective equipment (see Section 8).
	DNase Digestion Buffer	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.
Advice on general occupational hygiene :	RNase-Free DNase I (Lyophilized)	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.
	ß-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.
	Lysis Buffer	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.
	1.67X High Salt Wash Buffer	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.
	5x Low Salt Wash Buffer	Eating, drinking and smoking should be prohibited in areas

SECTION 7: Handling and storage

	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.
Elution Buffer	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.
DNase Reconstitution Buffer	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.
DNase Digestion Buffer	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

Storage	: RNase-Free DNase I (Lyophilized)	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. Eliminate all ignition sources. Separate from oxidising 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.
	ß-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.
	Lysis Buffer	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.
	1.67X High Salt Wash Buffer	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

SECTION 7: Handling and storage

	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.
5x Low Salt Wash Buffer	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.
Elution Buffer	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.
DNase Reconstitution Buffer	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.
DNase Digestion Buffer	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. Eliminate all ignition sources. Separate from oxidising 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.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
ß-Mercaptoethanol		
H2	50 tonne	200 tonne
E1	100 tonne	200 tonne
DNase Digestion Buffer		
P5c	5000 tonne	50000 tonne

7.3 Specific end use(s)

SECTION 7: Handling and storage

Recommendations	:	RNase-Free DNase I (Lyophilized)	Industrial applications, Professional applications.
		ß-Mercaptoethanol	Industrial applications, Professional applications.
		Lysis Buffer	Industrial applications, Professional applications.
		1.67X High Salt Wash Buffer	Industrial applications, Professional applications.
		5x Low Salt Wash Buffer	Industrial applications, Professional applications.
		Elution Buffer	Industrial applications, Professional applications.
		DNase Reconstitution Buffer	Industrial applications, Professional applications.
		DNase Digestion Buffer	Industrial applications, Professional applications.
Industrial sector specific solutions	:	RNase-Free DNase I (Lyophilized)	Not available.
		ß-Mercaptoethanol	Not available.
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
DNase Reconstitution Buffer	
Glycerol	**NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs)** OELV: 10 mg/m³ 8 hours. Form: mist
DNase Digestion Buffer	
ethanol	**NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs)** OELV: 1000 ppm 15 minutes.
Manganese dichloride	**NAOSH (Ireland, 5/2021). [manganese and inorganic manganese compounds] Notes: EU derived Occupational Exposure Limit Values** OELV: 0.2 mg/m³, (as Mn) 8 hours. Form: Inhalable fraction OELV: 0.05 mg/m³, (as Mn) 8 hours. Form: respirable fraction

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : 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

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects
ß-Mercaptoethanol					
ß-Mercaptoethanol	DNEL	Short term Oral	0.025 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0.025 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	0.05 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	0.05 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	0.17 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	0.17 mg/m³	Workers	Systemic
Lysis Buffer					
salts of thiocyanic acid	DNEL	Long term Oral	0.155 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.155 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.27 mg/m³	General population	Systemic
	DNEL	Long term Dermal	0.31 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.092 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	3.28 mg/m³	Workers	Systemic
1.67X High Salt Wash Buffer					
salts of thiocyanic acid	DNEL	Long term Oral	0.155 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.155 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.27 mg/m³	General population	Systemic
	DNEL	Long term Dermal	0.31 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.092 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	3.28 mg/m³	Workers	Systemic
DNase Digestion Buffer					
ethanol	DNEL	Long term Inhalation	380 mg/m³	Workers	Systemic
	DNEL	Long term Oral	87 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	114 mg/m³	General population	Systemic
	DNEL	Long term Dermal	206 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	343 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	950 mg/m³	General population	Local
	DNEL	Short term Inhalation	1900 mg/m³	Workers	Local
Manganese dichloride	DNEL	Long term Dermal	0.0021 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.00414 mg/kg bw/day	Workers	Systemic

SECTION 8: Exposure controls/personal protection

	DNEL	Long term Inhalation	0.043 mg/m³	General population	Systemic
	DNEL	Short term Oral	0.15 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.2 mg/m³	Workers	Systemic

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.

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.

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.

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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

SECTION 9: Physical and chemical properties

Physical state	:	RNase-Free DNase I (Lyophilized)	Solid.
		ß-Mercaptoethanol	Liquid.
		Lysis Buffer	Liquid.
		1.67X High Salt Wash Buffer	Liquid.
		5x Low Salt Wash Buffer	Liquid.
		Elution Buffer	Liquid.
		DNase Reconstitution Buffer	Liquid.
		DNase Digestion Buffer	Liquid.
Colour	:	RNase-Free DNase I (Lyophilized)	Not available.
		ß-Mercaptoethanol	Not available.
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Not available.
Odour	:	RNase-Free DNase I (Lyophilized)	Not available.
		ß-Mercaptoethanol	Not available.
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Not available.
Odour threshold	:	RNase-Free DNase I (Lyophilized)	Not available.
		ß-Mercaptoethanol	Not available.
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Not available.
Melting point/freezing point	:	RNase-Free DNase I (Lyophilized)	Not available.
		ß-Mercaptoethanol	-100°C
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	0°C
		Elution Buffer	0°C
		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Not available.
Initial boiling point and boiling range	:	RNase-Free DNase I (Lyophilized)	Not available.
		ß-Mercaptoethanol	157°C
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	100°C
		Elution Buffer	100°C

SECTION 9: Physical and chemical properties

		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Not available.
Flammability	:	RNase-Free DNase I (Lyophilized)	Not available.
		ß-Mercaptoethanol	Not applicable.
		Lysis Buffer	Not applicable.
		1.67X High Salt Wash Buffer	Not applicable.
		5x Low Salt Wash Buffer	Not applicable.
		Elution Buffer	Not applicable.
		DNase Reconstitution Buffer	Not applicable.
		DNase Digestion Buffer	Not applicable.
Upper/lower flammability or explosive limits	:	RNase-Free DNase I (Lyophilized)	Not applicable.
		ß-Mercaptoethanol	Lower: 2.3% Upper: 18%
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Not available.
Flash point	:	RNase-Free DNase I (Lyophilized)	Not applicable.
		ß-Mercaptoethanol	Closed cup: 74°C Open cup: 74°C
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Closed cup: 23 to 37.8°C

	Closed cup		Open cup	
Ingredient name	**°C**	**Method**	**°C**	**Method**
DNase Reconstitution Buffer				
glycerol	-	-	177	-

Auto-ignition temperature	:	RNase-Free DNase I (Lyophilized)	Not applicable.
		ß-Mercaptoethanol	295°C

Ingredient name	**°C**	**Method**
DNase Reconstitution Buffer		
glycerol	370	-
DNase Digestion Buffer		
ethanol	455	DIN 51794

SECTION 9: Physical and chemical properties

Decomposition temperature :

RNase-Free DNase I (Lyophilized)	Not available.
ß-Mercaptoethanol	Not available.
Lysis Buffer	Not available.
1.67X High Salt Wash Buffer	Not available.
5x Low Salt Wash Buffer	Not available.
Elution Buffer	Not available.
DNase Reconstitution Buffer	Not available.
DNase Digestion Buffer	Not available.

pH :

RNase-Free DNase I (Lyophilized)	Not available.
ß-Mercaptoethanol	Not available.
Lysis Buffer	Not available.
1.67X High Salt Wash Buffer	Not available.
5x Low Salt Wash Buffer	6.4
Elution Buffer	7.5
DNase Reconstitution Buffer	7.5
DNase Digestion Buffer	7

Viscosity :

RNase-Free DNase I (Lyophilized)	Not applicable.
ß-Mercaptoethanol	Dynamic: 3.43 mPa·s
Lysis Buffer	Not available.
1.67X High Salt Wash Buffer	Not available.
5x Low Salt Wash Buffer	Not available.
Elution Buffer	Not available.
DNase Reconstitution Buffer	Not available.
DNase Digestion Buffer	Not available.

Solubility(ies) :

Media	Result
RNase-Free DNase I (Lyophilized)	
water	Soluble
ß-Mercaptoethanol	
water	Soluble
Lysis Buffer	
water	Soluble
1.67X High Salt Wash Buffer	
water	Soluble
5x Low Salt Wash Buffer	
water	Soluble
Elution Buffer	
water	Soluble
DNase Reconstitution Buffer	
water	Soluble
DNase Digestion Buffer	
water	Soluble

Partition coefficient: n-octanol/water :

RNase-Free DNase I (Lyophilized)	Not applicable.
ß-Mercaptoethanol	-0.056
Lysis Buffer	Not applicable.
1.67X High Salt Wash Buffer	Not applicable.
5x Low Salt Wash Buffer	Not applicable.
Elution Buffer	Not applicable.
DNase Reconstitution Buffer	Not applicable.
DNase Digestion Buffer	Not applicable.

Vapour pressure :

ß-Mercaptoethanol	0.13 kPa (0.97508 mm Hg)

SECTION 9: Physical and chemical properties

Ingredient name	Vapour Pressure at 20˚C			Vapour pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Lysis Buffer						
water	17.5	2.3	-	92.258	12.3	-
salts of thiocyanic acid	<0.000001	<0.00000013	EU A.4	-	-	-
1.67X High Salt Wash Buffer						
water	17.5	2.3	-	92.258	12.3	-
5x Low Salt Wash Buffer						
water	17.5	2.3	-	92.258	12.3	-
Elution Buffer						
water	17.5	2.3	-	92.258	12.3	-
DNase Reconstitution Buffer						
water	17.5	2.3	-	92.258	12.3	-
glycerol	0.000075	0.00001	-	0.0025	0.00033	-
DNase Digestion Buffer						
ethanol	42.94865	5.7	-	-	-	-
water	17.5	2.3	-	92.258	12.3	-

Evaporation rate :

RNase-Free DNase I (Lyophilized)	Not available.
ß-Mercaptoethanol	Not available.
Lysis Buffer	Not available.
1.67X High Salt Wash Buffer	Not available.
5x Low Salt Wash Buffer	Not available.
Elution Buffer	Not available.
DNase Reconstitution Buffer	Not available.
DNase Digestion Buffer	Not available.

Relative density :

RNase-Free DNase I (Lyophilized)	Not available.
ß-Mercaptoethanol	1.1
Lysis Buffer	Not available.
1.67X High Salt Wash Buffer	Not available.
5x Low Salt Wash Buffer	Not available.
Elution Buffer	Not available.
DNase Reconstitution	Not available.

SECTION 9: Physical and chemical properties

		Buffer	
		DNase Digestion Buffer	Not available.
Vapour density	:	RNase-Free DNase I (Lyophilized)	Not applicable.
		ß-Mercaptoethanol	2.7 [Air = 1]
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Not available.
Explosive properties	:	RNase-Free DNase I (Lyophilized)	Not available.
		ß-Mercaptoethanol	Not available.
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Not available.
Oxidising properties	:	RNase-Free DNase I (Lyophilized)	Not available.
		ß-Mercaptoethanol	Not available.
		Lysis Buffer	Not available.
		1.67X High Salt Wash Buffer	Not available.
		5x Low Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		DNase Reconstitution Buffer	Not available.
		DNase Digestion Buffer	Not available.
Particle characteristics			
Median particle size	:	RNase-Free DNase I (Lyophilized)	Not available.
		ß-Mercaptoethanol	Not applicable.
		Lysis Buffer	Not applicable.
		1.67X High Salt Wash Buffer	Not applicable.
		5x Low Salt Wash Buffer	Not applicable.
		Elution Buffer	Not applicable.
		DNase Reconstitution Buffer	Not applicable.
		DNase Digestion Buffer	Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	RNase-Free DNase I (Lyophilized)	No specific test data related to reactivity available for this product or its ingredients.
		ß-Mercaptoethanol	No specific test data related to reactivity available for this product or its ingredients.
		Lysis Buffer	No specific test data related to reactivity available for this product or its ingredients.
		1.67X High Salt Wash Buffer	No specific test data related to reactivity available for this product or its ingredients.
		5x Low Salt Wash Buffer	No specific test data related to reactivity available for this

SECTION 10: Stability and reactivity

			product or its ingredients.
		Elution Buffer	No specific test data related to reactivity available for this product or its ingredients.
		DNase Reconstitution Buffer	No specific test data related to reactivity available for this product or its ingredients.
		DNase Digestion Buffer	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	:	RNase-Free DNase I (Lyophilized)	The product is stable.
		ß-Mercaptoethanol	The product is stable.
		Lysis Buffer	The product is stable.
		1.67X High Salt Wash Buffer	The product is stable.
		5x Low Salt Wash Buffer	The product is stable.
		Elution Buffer	The product is stable.
		DNase Reconstitution Buffer	The product is stable.
		DNase Digestion Buffer	The product is stable.
10.3 Possibility of hazardous reactions	:	RNase-Free DNase I (Lyophilized)	Under normal conditions of storage and use, hazardous reactions will not occur.
		ß-Mercaptoethanol	Under normal conditions of storage and use, hazardous reactions will not occur.
		Lysis Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		1.67X High Salt Wash Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		5x Low Salt Wash Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		Elution Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		DNase Reconstitution Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		DNase Digestion Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	:	RNase-Free DNase I (Lyophilized)	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.
		ß-Mercaptoethanol	No specific data.
		Lysis Buffer	No specific data.
		1.67X High Salt Wash Buffer	No specific data.
		5x Low Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		DNase Reconstitution Buffer	No specific data.
		DNase Digestion Buffer	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.

SECTION 10: Stability and reactivity

10.5 Incompatible materials

RNase-Free DNase I (Lyophilized)	Reactive or incompatible with the following materials: oxidising materials
ß-Mercaptoethanol	May react or be incompatible with oxidising materials.
Lysis Buffer	May react or be incompatible with oxidising materials.
1.67X High Salt Wash Buffer	May react or be incompatible with oxidising materials.
5x Low Salt Wash Buffer	May react or be incompatible with oxidising materials.
Elution Buffer	May react or be incompatible with oxidising materials.
DNase Reconstitution Buffer	May react or be incompatible with oxidising materials.
DNase Digestion Buffer	Reactive or incompatible with the following materials: oxidising materials

10.6 Hazardous decomposition products

RNase-Free DNase I (Lyophilized)	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
ß-Mercaptoethanol	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Lysis Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
1.67X High Salt Wash Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
5x Low Salt Wash Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Elution Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
DNase Reconstitution Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
DNase Digestion Buffer	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
ß-Mercaptoethanol				
ß-Mercaptoethanol	LD50 Oral	Rat	244 mg/kg	-
Lysis Buffer				
salts of thiocyanic acid	LC50 Inhalation Dusts and mists	Rat - Female	3.181 mg/l	4 hours
	LD50 Oral	Rat - Male, Female	593 mg/kg	-
1.67X High Salt Wash Buffer				
salts of thiocyanic acid	LC50 Inhalation Dusts and mists	Rat - Female	3.181 mg/l	4 hours
	LD50 Oral	Rat - Male, Female	593 mg/kg	-
DNase Digestion Buffer				
ethanol	LC50 Inhalation Vapour	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	7 g/kg	-
Manganese dichloride	LD50 Oral	Rat	250 mg/kg	-

Acute toxicity estimates

SECTION 11: Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
ß-Mercaptoethanol					
ß-Mercaptoethanol	244	200	N/A	3	N/A
Lysis Buffer					
Lysis Buffer	1253.7	2325.6	N/A	N/A	6.7
salts of thiocyanic acid	593	1100	N/A	N/A	3.181
1.67X High Salt Wash Buffer					
1.67X High Salt Wash Buffer	1520.5	2820.5	N/A	N/A	8.2
salts of thiocyanic acid	593	1100	N/A	N/A	3.181
DNase Digestion Buffer					
DNase Digestion Buffer	192307.7	N/A	N/A	N/A	N/A
ethanol	7000	N/A	N/A	124.7	N/A
Manganese dichloride	250	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
ß-Mercaptoethanol					
ß-Mercaptoethanol	Eyes - Severe irritant	Rabbit	-	2 mg	-
DNase Digestion Buffer					
ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	100 uL	-

Sensitiser

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)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ß-Mercaptoethanol			
ß-Mercaptoethanol	Category 2	-	heart, liver
DNase Digestion Buffer			
Manganese dichloride	Category 2	-	brain

Aspiration hazard

Not available.

SECTION 11: Toxicological information

Information on likely routes of exposure :	RNase-Free DNase I (Lyophilized)	Not available.
	ß-Mercaptoethanol	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	Lysis Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	1.67X High Salt Wash Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	5x Low Salt Wash Buffer	Not available.
	Elution Buffer	Not available.
	DNase Reconstitution Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	DNase Digestion Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Inhalation :	RNase-Free DNase I (Lyophilized)	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
	ß-Mercaptoethanol	Toxic if inhaled.
	Lysis Buffer	No known significant effects or critical hazards.
	1.67X High Salt Wash Buffer	No known significant effects or critical hazards.
	5x Low Salt Wash Buffer	No known significant effects or critical hazards.
	Elution Buffer	No known significant effects or critical hazards.
	DNase Reconstitution Buffer	No known significant effects or critical hazards.
	DNase Digestion Buffer	No known significant effects or critical hazards.
Ingestion :	RNase-Free DNase I (Lyophilized)	No known significant effects or critical hazards.
	ß-Mercaptoethanol	Toxic if swallowed.
	Lysis Buffer	Harmful if swallowed. Corrosive to the digestive tract. Causes burns.
	1.67X High Salt Wash Buffer	Harmful if swallowed. Corrosive to the digestive tract. Causes burns.
	5x Low Salt Wash Buffer	No known significant effects or critical hazards.
	Elution Buffer	No known significant effects or critical hazards.
	DNase Reconstitution Buffer	No known significant effects or critical hazards.
	DNase Digestion Buffer	No known significant effects or critical hazards.
Skin contact :	RNase-Free DNase I (Lyophilized)	No known significant effects or critical hazards.
	ß-Mercaptoethanol	Fatal in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
	Lysis Buffer	Causes severe burns.
	1.67X High Salt Wash Buffer	Causes severe burns.
	5x Low Salt Wash Buffer	No known significant effects or critical hazards.
	Elution Buffer	No known significant effects or critical hazards.
	DNase Reconstitution Buffer	No known significant effects or critical hazards.
	DNase Digestion Buffer	No known significant effects or critical hazards.
Eye contact :	RNase-Free DNase I (Lyophilized)	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
	ß-Mercaptoethanol	Causes serious eye damage.
	Lysis Buffer	Causes serious eye damage.
	1.67X High Salt Wash Buffer	Causes serious eye damage.
	5x Low Salt Wash Buffer	No known significant effects or critical hazards.
	Elution Buffer	No known significant effects or critical hazards.
	DNase Reconstitution Buffer	No known significant effects or critical hazards.
	DNase Digestion Buffer	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

SECTION 11: Toxicological information

Inhalation	:	RNase-Free DNase I (Lyophilized)	Adverse symptoms may include the following: respiratory tract irritation coughing
		ß-Mercaptoethanol	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		Lysis Buffer	No specific data.
		1.67X High Salt Wash Buffer	No specific data.
		5x Low Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		DNase Reconstitution Buffer	No specific data.
		DNase Digestion Buffer	No specific data.
Ingestion	:	RNase-Free DNase I (Lyophilized)	No specific data.
		ß-Mercaptoethanol	Adverse symptoms may include the following: stomach pains reduced foetal weight increase in foetal deaths skeletal malformations
		Lysis Buffer	Adverse symptoms may include the following: stomach pains
		1.67X High Salt Wash Buffer	Adverse symptoms may include the following: stomach pains
		5x Low Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		DNase Reconstitution Buffer	No specific data.
		DNase Digestion Buffer	No specific data.
Skin contact	:	RNase-Free DNase I (Lyophilized)	No specific data.
		ß-Mercaptoethanol	Adverse symptoms may include the following: pain or irritation redness blistering may occur reduced foetal weight increase in foetal deaths skeletal malformations
		Lysis Buffer	Adverse symptoms may include the following: pain or irritation redness blistering may occur
		1.67X High Salt Wash Buffer	Adverse symptoms may include the following: pain or irritation redness blistering may occur
		5x Low Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		DNase Reconstitution Buffer	No specific data.
		DNase Digestion Buffer	No specific data.
Eye contact	:	RNase-Free DNase I (Lyophilized)	Adverse symptoms may include the following: irritation redness
		ß-Mercaptoethanol	Adverse symptoms may include the following: pain watering

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	redness
Lysis Buffer	Adverse symptoms may include the following: pain watering redness
1.67X High Salt Wash Buffer	Adverse symptoms may include the following: pain watering redness
5x Low Salt Wash Buffer	No specific data.
Elution Buffer	No specific data.
DNase Reconstitution Buffer	No specific data.
DNase Digestion Buffer	No specific data.

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

Conclusion/Summary : Not available.

General :	RNase-Free DNase I (Lyophilized)	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
	ß-Mercaptoethanol	May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
	Lysis Buffer	No known significant effects or critical hazards.
	1.67X High Salt Wash Buffer	No known significant effects or critical hazards.
	5x Low Salt Wash Buffer	No known significant effects or critical hazards.
	Elution Buffer	No known significant effects or critical hazards.
	DNase Reconstitution Buffer	No known significant effects or critical hazards.
	DNase Digestion Buffer	No known significant effects or critical hazards.
Carcinogenicity :	RNase-Free DNase I (Lyophilized)	No known significant effects or critical hazards.
	ß-Mercaptoethanol	No known significant effects or critical hazards.
	Lysis Buffer	No known significant effects or critical hazards.
	1.67X High Salt Wash Buffer	No known significant effects or critical hazards.
	5x Low Salt Wash Buffer	No known significant effects or critical hazards.
	Elution Buffer	No known significant effects or critical hazards.
	DNase Reconstitution Buffer	No known significant effects or critical hazards.
	DNase Digestion Buffer	No known significant effects or critical hazards.

SECTION 11: Toxicological information

Mutagenicity	:	RNase-Free DNase I (Lyophilized)	No known significant effects or critical hazards.
		ß-Mercaptoethanol	No known significant effects or critical hazards.
		Lysis Buffer	No known significant effects or critical hazards.
		1.67X High Salt Wash Buffer	No known significant effects or critical hazards.
		5x Low Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		DNase Reconstitution Buffer	No known significant effects or critical hazards.
		DNase Digestion Buffer	No known significant effects or critical hazards.
Reproductive toxicity	:	RNase-Free DNase I (Lyophilized)	No known significant effects or critical hazards.
		ß-Mercaptoethanol	Suspected of damaging fertility.
		Lysis Buffer	No known significant effects or critical hazards.
		1.67X High Salt Wash Buffer	No known significant effects or critical hazards.
		5x Low Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		DNase Reconstitution Buffer	No known significant effects or critical hazards.
		DNase Digestion Buffer	No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

DNase Digestion Buffer — Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
ß-Mercaptoethanol			
ß-Mercaptoethanol	Acute EC50 0.4 mg/l Fresh water	Daphnia	48 hours
DNase Digestion Buffer			
ethanol	Acute EC50 3306 mg/l Marine water	Algae - *Ulva pertusa*	96 hours
	Acute EC50 1074 mg/l Fresh water	Crustaceans - *Cypris subglobosa*	48 hours
	Acute EC50 2 mg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 11000000 µg/l Marine water	Fish - *Alburnus alburnus*	96 hours
	Chronic NOEC 4.995 mg/l Marine water	Algae - *Ulva pertusa*	96 hours
	Chronic NOEC 100 ul/L Fresh water	Daphnia - *Daphnia magna* - Neonate	21 days
Manganese dichloride	Acute EC50 5.92 mg/l Fresh water	Algae - *Desmodesmus subspicatus*	72 hours
	Acute EC50 4700 µg/l Fresh water	Daphnia - *Daphnia magna* - Neonate	48 hours
	Acute LC50 51800 µg/l Marine water	Crustaceans - *Artemia sp.* - Nauplii	48 hours
	Acute LC50 220 ppm Marine water	Fish - *Lates calcarifer* - Fry	96 hours
	Chronic NOEC 510 µg/l Fresh water	Fish - *Salmo trutta* - Eyed stage, eyed embryo	62 days

12.2 Persistence and degradability

SECTION 12: Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
ß-Mercaptoethanol				
ß-Mercaptoethanol	OECD 310 Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)	69 % - Not readily - 60 days	20 mg/l	-
Lysis Buffer				
salts of thiocyanic acid	OECD 302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test	46 % - Inherent - 28 days	-	-
1.67X High Salt Wash Buffer				
salts of thiocyanic acid	OECD 302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test	46 % - Inherent - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ß-Mercaptoethanol			
ß-Mercaptoethanol	-	-	Not readily
Lysis Buffer			
salts of thiocyanic acid	-	-	Inherent
1.67X High Salt Wash Buffer			
salts of thiocyanic acid	-	-	Inherent
DNase Digestion Buffer			
ethanol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
ß-Mercaptoethanol			
ß-Mercaptoethanol	-0.056	-	Low
Lysis Buffer			
salts of thiocyanic acid	<-1.7	-	Low
1.67X High Salt Wash Buffer			
salts of thiocyanic acid	<-1.7	-	Low
DNase Digestion Buffer			
ethanol	-0.35	0.5	Low

12.4 Mobility in soil

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

Mobility : Not available.

SECTION 12: Ecological information

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
RNase-Free DNase I (Lyophilized) Enzyme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ß-Mercaptoethanol ß-Mercaptoethanol	N/A	N/A	N/A	Yes	N/A	N/A	N/A

12.6 Endocrine disrupting properties

Not available.

12.7 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID 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	No.	No.	No.

Additional information

Remarks: Excepted Quantity

SECTION 14: Transport information

ADR/RID : **Hazard identification number** 90
Limited quantity See SP 251
Special provisions 251, 340, 671
Tunnel code (E)

IMDG : **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 IMO instruments : 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.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product / Ingredient name	Identifiers	Designation [Usage]
ß-Mercaptoethanol ß-Mercaptoethanol		3
Lysis Buffer Lysis Buffer		3
1.67X High Salt Wash Buffer 1.67X High Salt Wash Buffer		3
DNase Digestion Buffer DNase Digestion Buffer		3

Label :

RNase-Free DNase I (Lyophilized)	Not applicable.
ß-Mercaptoethanol	Not applicable.
Lysis Buffer	Not applicable.
1.67X High Salt Wash Buffer	Not applicable.
5x Low Salt Wash Buffer	Not applicable.
Elution Buffer	Not applicable.
DNase Reconstitution Buffer	Not applicable.
DNase Digestion Buffer	Not applicable.

Other EU regulations

SECTION 15: Regulatory information

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

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

Danger criteria

Category
ß-Mercaptoethanol H2 E1 **DNase Digestion Buffer** P5c

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

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 : Not determined.

Canada : Not determined.

China : Not determined.

Eurasian Economic Union : **Russian Federation inventory**: Not determined.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): All components are listed or exempted.

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

Turkey : Not determined.

United States : All components are active or exempted.

Viet Nam : Not determined.

SECTION 15: Regulatory information

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]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
ß-Mercaptoethanol	
Acute Tox. 3, H301	On basis of test data
Acute Tox. 2, H310	On basis of test data
Acute Tox. 3, H331	On basis of test data
Skin Irrit. 2, H315	Expert judgment
Eye Dam. 1, H318	Expert judgment
Skin Sens. 1A, H317	Expert judgment
Repr. 2, H361f	Expert judgment
STOT RE 2, H373 (heart, liver)	Expert judgment
Aquatic Acute 1, H400	On basis of test data
Aquatic Chronic 2, H411	Expert judgment
Lysis Buffer	
Acute Tox. 4, H302	Calculation method
Skin Corr. 1C, H314	Calculation method
Aquatic Chronic 3, H412	Calculation method
1.67X High Salt Wash Buffer	
Acute Tox. 4, H302	Calculation method
Skin Corr. 1C, H314	Calculation method
Aquatic Chronic 3, H412	Calculation method
DNase Digestion Buffer	
Flam. Liq. 3, H226	On basis of test data

Full text of abbreviated H statements

ß-Mercaptoethanol	
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
Lysis Buffer	
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.

SECTION 16: Other information

H318	Causes serious eye damage.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.
EUH071	Corrosive to the respiratory tract.
1.67X High Salt Wash Buffer	
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.
EUH071	Corrosive to the respiratory tract.
DNase Digestion Buffer	
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

ß-Mercaptoethanol	
Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
Lysis Buffer	
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C
1.67X High Salt Wash Buffer	
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C
DNase Digestion Buffer	
Acute Tox. 3	ACUTE TOXICITY - Category 3
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

Date of issue/ Date of revision : 29/01/2024

Date of previous issue : No previous validation

SECTION 16: Other information

Version : 1

Notice to reader

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