SAFETY DATA SHEET

DNA Demo Kit, Part Number 5061-6051

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

1.1 Product identifier

Product name : DNA Demo Kit, Part Number 5061-6051

Part No. :

Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	8500-8536
Magnesium Chloride Concentrate, Part Number 8500-8538	8500-8538
HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	8500-8539
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	8500-8540

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

Identified uses
Analytical chemistry.

1.3 Details of the supplier of the safety data sheet

Keysight Technologies, Inc.
1400 Fountaingrove Parkway
Santa Rosa, California 95403

e-mail address of person responsible for this SDS : James_Powell@Keysight.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : (707) 577-3000
Monday - Friday 8:00 - 5:00

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition :

Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Mixture
Magnesium Chloride Concentrate, Part Number 8500-8538	Mixture
HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Mixture
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Mixture

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

SECTION 2: Hazards identification

Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540

H334	RESPIRATORY SENSITIZATION - Category 1
H317	SKIN SENSITIZATION - Category 1
H341	GERM CELL MUTAGENICITY - Category 2
H350	CARCINOGENICITY - Category 1A
H360D	TOXIC TO REPRODUCTION (Unborn child) - Category 1B
H372	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
H412	LONG-TERM AQUATIC HAZARD - Category 3

Ingredients of unknown toxicity :

Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 100%
Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 2%
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not applicable.

Ingredients of unknown ecotoxicity :

Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 100%
Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2%
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not applicable.

Classification according to Directive 1999/45/EC [DPD]

Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Magnesium Chloride Concentrate, Part Number 8500-8538	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification :

Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not classified.
Magnesium Chloride Concentrate, Part Number 8500-8538	Not classified.
HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not classified.
Nickel Chloride Concentrate: 100 mM NiCl, Part Number	Carc. Cat. 1; R49 Muta. Cat. 3; R68 Repr. Cat. 2; R61

SECTION 2: Hazards identification

		8500-8540	T; R48/23 R42/43 R52/53
Human health hazards	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	May cause cancer by inhalation. Possible risk of irreversible effects. May cause harm to the unborn child. Also toxic: danger of serious damage to health by prolonged exposure through inhalation. May cause sensitisation by inhalation and skin contact.
Environmental hazards	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

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

2.2 Label elements

Hazard pictograms :

Signal word	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No signal word.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No signal word.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No signal word.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Danger

SECTION 2: Hazards identification

Hazard statements	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317 - May cause an allergic skin reaction. H350 - May cause cancer. H360D - May damage the unborn child. H341 - Suspected of causing genetic defects. H372 - Causes damage to organs through prolonged or repeated exposure. H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements			
Prevention	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	P201 - Obtain special instructions before use. P280 - Wear protective gloves. P273 - Avoid release to the environment. P260 - Do not breathe vapour.
Response	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	P314 - Get medical attention if you feel unwell. P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician.
Storage	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
		Nickel Chloride Concentrate: 100 mM	P405 - Store locked up.

SECTION 2: Hazards identification

		NiCl, Part Number 8500-8540	
Disposal	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	:	**Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540** Nickel(ii) chloride hexahydrate	
Supplemental label elements	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not applicable.

Special packaging requirements

Tactile warning of danger	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not applicable.

2.3 Other hazards

Other hazards which do not result in classification	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	None known.
		Magnesium Chloride Concentrate, Part Number 8500-8538	None known.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	None known.

SECTION 2: Hazards identification

Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	None known.

SECTION 3: Composition/information on ingredients

Substance/mixture : Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536 — Mixture

Magnesium Chloride Concentrate, Part Number 8500-8538 — Mixture

HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539 — Mixture

Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540 — Mixture

Product/ingredient name	Identifiers	%	Classification 67/548/EEC	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540					
Nickel(ii) chloride hexahydrate	EC: 231-743-0 CAS: 7791-20-0 Index: 028-011-00-6	>=1 - <2.5	Carc. Cat. 1; R49 Muta. Cat. 3; R68 Repr. Cat. 2; R61 T; R23/25, R48/23 Xi; R38 R42/43 N; R50/53 **See Section 16 for the full text of the R-phrases declared above.**	Acute Tox. 3, H301 Acute Tox. 3, H331 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1A, H350i (inhalation) Repr. 1B, H360D (Unborn child) STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 **See Section 16 for the full text of the H statements declared above.**	[1]

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

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	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.
		Magnesium Chloride Concentrate, Part Number 8500-8538	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.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	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.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.
Skin contact	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	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. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

Ingestion	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. 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.
Protection of first-aiders	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No action shall be taken involving any personal risk or without suitable training.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No action shall be taken involving any personal risk or without suitable training.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No action shall be taken involving any personal risk or without suitable training.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	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.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride	No known significant effects or critical hazards.

SECTION 4: First aid measures

		Concentrate: 100 mM NiCl, Part Number 8500-8540	
Inhalation	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	May cause an allergic skin reaction.
Ingestion	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No specific data.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific data.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No specific data.

SECTION 4: First aid measures

Inhalation	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No specific data.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific data.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Adverse symptoms may include the following: wheezing and breathing difficulties asthma reduced foetal weight increase in foetal deaths skeletal malformations
Skin contact	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No specific data.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific data.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Adverse symptoms may include the following: irritation redness reduced foetal weight increase in foetal deaths skeletal malformations
Ingestion	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No specific data.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific data.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	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.
		Nickel Chloride Concentrate: 100 mM	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 4: First aid measures

		NiCl, Part Number 8500-8540	
Specific treatments	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific treatment.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No specific treatment.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific treatment.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Use an extinguishing agent suitable for the surrounding fire.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Use an extinguishing agent suitable for the surrounding fire.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Use an extinguishing agent suitable for the surrounding fire.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	None known.
		Magnesium Chloride Concentrate, Part Number 8500-8538	None known.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	None known.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	In a fire or if heated, a pressure increase will occur and the container may burst.
		Magnesium Chloride Concentrate, Part Number 8500-8538	In a fire or if heated, a pressure increase will occur and the container may burst.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	In a fire or if heated, a pressure increase will occur and the container may burst.

SECTION 5: Firefighting measures

	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	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.
Hazardous combustion products :	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
	Magnesium Chloride Concentrate, Part Number 8500-8538	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

Special precautions for fire-fighters :	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	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.
	Magnesium Chloride Concentrate, Part Number 8500-8538	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.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	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.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	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.
Special protective equipment for fire-fighters :	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	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.
	Magnesium Chloride Concentrate, Part Number 8500-8538	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.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	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.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	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	: Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	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.
	Magnesium Chloride Concentrate, Part Number 8500-8538	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.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	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.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	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".
	Magnesium Chloride Concentrate, Part Number 8500-8538	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".
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	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".
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	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	: Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	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).
	Magnesium Chloride Concentrate, Part Number 8500-8538	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).
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	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).
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	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.

6.3 Methods and materials for containment and cleaning up

SECTION 6: Accidental release measures

Methods for cleaning up	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	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.
		Magnesium Chloride Concentrate, Part Number 8500-8538	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.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	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.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Put on appropriate personal protective equipment (see Section 8).
		Magnesium Chloride Concentrate, Part Number 8500-8538	Put on appropriate personal protective equipment (see Section 8).
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Put on appropriate personal protective equipment (see Section 8).
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease 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.
Advice on general occupational hygiene	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	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.
		Magnesium Chloride Concentrate, Part Number 8500-8538	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 7: Handling and storage

		Section 8 for additional information on hygiene measures.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	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.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	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	: Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	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.
	Magnesium Chloride Concentrate, Part Number 8500-8538	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.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	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.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	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.
7.3 Specific end use(s)		
Recommendations	: Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Industrial applications, Professional applications.
	Magnesium Chloride Concentrate, Part Number 8500-8538	Industrial applications, Professional applications.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Industrial applications, Professional applications.
	Nickel Chloride	Industrial applications, Professional applications.

SECTION 7: Handling and storage

Concentrate: 100 mM NiCl, Part Number 8500-8540

Industrial sector specific solutions : Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

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

Derived effect levels

No DNELs available.

Predicted effect concentrations

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, 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: safety glasses with side-shields.

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.

SECTION 8: Exposure controls/personal protection

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Liquid.
	Magnesium Chloride Concentrate, Part Number 8500-8538	Liquid.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Liquid.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Liquid.
Colour	: Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
	Magnesium Chloride Concentrate, Part Number 8500-8538	Colourless.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Odour	: Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
	Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.

SECTION 9: Physical and chemical properties

Odour threshold	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
pH	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	7.6
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	4 to 6
Melting point/freezing point	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	0°C
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	0°C
Initial boiling point and boiling range	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	100°C
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	100°C

SECTION 9: Physical and chemical properties

Flash point	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Evaporation rate	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Flammability (solid, gas)	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not applicable.
Upper/lower flammability or explosive limits	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.

SECTION 9: Physical and chemical properties

Vapour pressure	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Vapour density	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Relative density	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	1
Solubility(ies)	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Easily soluble in the following materials: cold water and hot water.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Easily soluble in the following materials: cold water and hot water.

SECTION 9: Physical and chemical properties

Partition coefficient: n-octanol/water	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Auto-ignition temperature	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Decomposition temperature	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Viscosity	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.

SECTION 9: Physical and chemical properties

Explosive properties	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific test data related to reactivity available for this product or its ingredients.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No specific test data related to reactivity available for this product or its ingredients.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific test data related to reactivity available for this product or its ingredients.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	The product is stable.
		Magnesium Chloride Concentrate, Part Number 8500-8538	The product is stable.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	The product is stable.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	The product is stable.
10.3 Possibility of hazardous reactions	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Under normal conditions of storage and use, hazardous reactions will not occur.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Under normal conditions of storage and use, hazardous reactions will not occur.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Under normal conditions of storage and use, hazardous reactions will not occur.

SECTION 10: Stability and reactivity

	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid :	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
	Magnesium Chloride Concentrate, Part Number 8500-8538	No specific data.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific data.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No specific data.
10.5 Incompatible materials :	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
	Magnesium Chloride Concentrate, Part Number 8500-8538	No specific data.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific data.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No specific data.
10.6 Hazardous decomposition products :	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Magnesium Chloride Concentrate, Part Number 8500-8538	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	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
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540 Nickel(ii) chloride hexahydrate	LD50 Oral	Rat	105 mg/kg	-

SECTION 11: Toxicological information

Acute toxicity estimates

Route	ATE value
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	
Oral	5250 mg/kg
Inhalation (dusts and mists)	25 mg/l

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

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
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540			
Nickel(ii) chloride hexahydrate	Category 1	Not determined	Not determined

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation	: Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
	Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Ingestion	: Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
	Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No known significant effects or critical hazards.

SECTION 11: Toxicological information

Skin contact	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	May cause an allergic skin reaction.
Eye contact	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No specific data.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific data.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Adverse symptoms may include the following: wheezing and breathing difficulties asthma reduced foetal weight increase in foetal deaths skeletal malformations
Ingestion	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No specific data.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific data.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations

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Skin contact	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No specific data.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific data.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Adverse symptoms may include the following: irritation redness reduced foetal weight increase in foetal deaths skeletal malformations
Eye contact	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No specific data.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No specific data.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No specific data.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

SECTION 11: Toxicological information

Carcinogenicity	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Suspected of causing genetic defects.
Teratogenicity	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	May damage the unborn child.
Developmental effects	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No known significant effects or critical hazards.

SECTION 11: Toxicological information

Fertility effects	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	No known significant effects or critical hazards.
		Magnesium Chloride Concentrate, Part Number 8500-8538	No known significant effects or critical hazards.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	No known significant effects or critical hazards.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	No known significant effects or critical hazards.

Toxicokinetics

Absorption	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Distribution	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Metabolism	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.

SECTION 11: Toxicological information

Elimination	:	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not available.
		Magnesium Chloride Concentrate, Part Number 8500-8538	Not available.
		HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not available.
		Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Not available.
Other information	:	Not available.	

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

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

Packaging

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

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

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 : Restricted to professional users.

Other EU regulations

Europe inventory : Not determined.

Black List Chemicals : Not listed

Priority List Chemicals : Not listed

Integrated pollution prevention and control list (IPPC) - Air : Not listed

Integrated pollution prevention and control list (IPPC) - Water : Not listed

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540 Nickel(ii) chloride hexahydrate	Carc. 1A, H350 (inhalation)	Muta. 2, H341	Repr. 1B, H360D (Unborn child)	-

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

SECTION 16: Other information

Indicates information that has changed from previously issued version.

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

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

SECTION 16: Other information

Classification	Justification
Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	
Resp. Sens. 1, H334	Calculation method
Skin Sens. 1, H317	Calculation method
Muta. 2, H341	Calculation method
Carc. 1A, H350	Calculation method
Repr. 1B, H360D (Unborn child)	Calculation method
STOT RE 1, H372	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements : **Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540**

H301	Toxic if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H350i	May cause cancer if inhaled.
H360D (Unborn child)	May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS] : **Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540**

Acute Tox. 3, H301	ACUTE TOXICITY (oral) - Category 3
Acute Tox. 3, H331	ACUTE TOXICITY (inhalation) - Category 3
Aquatic Acute 1, H400	ACUTE AQUATIC HAZARD - Category 1
Aquatic Chronic 1, H410	LONG-TERM AQUATIC HAZARD - Category 1
Aquatic Chronic 3, H412	LONG-TERM AQUATIC HAZARD - Category 3
Carc. 1A, H350	CARCINOGENICITY - Category 1A
Carc. 1A, H350i (inhalation)	CARCINOGENICITY (inhalation) - Category 1A
Muta. 2, H341	GERM CELL MUTAGENICITY - Category 2
Repr. 1B, H360D (Unborn child)	TOXIC TO REPRODUCTION (Unborn child) - Category 1B
Resp. Sens. 1, H334	RESPIRATORY SENSITIZATION - Category 1
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317	SKIN SENSITIZATION - Category 1
STOT RE 1, H372	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

Full text of abbreviated R phrases :

Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
Nickel Chloride Concentrate: 100 mM NiCl, Part Number	R49- May cause cancer by inhalation. R68- Possible risk of irreversible effects. R61- May cause harm to the unborn child.

SECTION 16: Other information

	8500-8540	R23/25- Also toxic by inhalation and if swallowed. R48/23- Also toxic: danger of serious damage to health by prolonged exposure through inhalation. R38- Irritating to skin. R42/43- May cause sensitisation by inhalation and skin contact. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Full text of classifications [DSD/DPD] :	Lambda DNA, EcoR1 Digest in 1X Tris-EDTA Buffer, Part Number 8500-8536	Not applicable.
	Magnesium Chloride Concentrate, Part Number 8500-8538	Not applicable.
	HEPES Buffer Concentrate: 100mM HEPES, Part Number 8500-8539	Not applicable.
	Nickel Chloride Concentrate: 100 mM NiCl, Part Number 8500-8540	Carc. Cat. 1 - Carcinogen category 1 Muta. Cat. 3 - Mutagen category 3 Repr. Cat. 2 - Toxic to reproduction category 2 T - Toxic Xi - Irritant N - Dangerous for the environment

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