

# SAFETY DATA SHEET



## Mammalian Transfection Calcium Phosphate Kit, Part Number 200385

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

#### 1.1 Product identifier

**Product name** : Mammalian Transfection Calcium Phosphate Kit, Part Number 200385  
**Part No. (Kit)** : 200385  
**Part No.** : Mammalian Transfection Kit Solution 1 200285-81  
Mammalian Transfection Kit Solution 2 200285-82  
pWL-neo Plasmid 200285-85

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

Identified uses	
Analytical reagent.	
Mammalian Transfection Kit Solution 1	1.5 ml
Mammalian Transfection Kit Solution 2	15 ml
pWL-neo Plasmid	0.04 ml (40 µg)

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

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

**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

#### 1.4 Emergency telephone number

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

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Product definition** : Mammalian Transfection Kit Solution 1 Mixture  
Mammalian Transfection Kit Solution 2 Mixture  
pWL-neo Plasmid Mixture

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

##### Mammalian Transfection Kit

##### Solution 1

H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

**Ingredients of unknown toxicity** : Mammalian Transfection Kit Solution 2 Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%  
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%  
Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%

**Date of issue/Date of revision** : 31/12/2017

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**SECTION 2: Hazards identification**

**Ingredients of unknown ecotoxicity** : Mammalian Transfection Kit Solution 2 Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.1%

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** : Mammalian Transfection Kit Solution 1



**Signal word** : Mammalian Transfection Kit Solution 1 Warning  
Mammalian Transfection Kit Solution 2 No signal word.  
pWL-neo Plasmid No signal word.

**Hazard statements** : Mammalian Transfection Kit Solution 1 H319 - Causes serious eye irritation.  
Mammalian Transfection Kit Solution 2 No known significant effects or critical hazards.  
pWL-neo Plasmid No known significant effects or critical hazards.

**Precautionary statements**

**Prevention** : Mammalian Transfection Kit Solution 1 P280 - Wear eye or face protection.  
P264 - Wash hands thoroughly after handling.  
Mammalian Transfection Kit Solution 2 Not applicable.  
pWL-neo Plasmid Not applicable.

**Response** : Mammalian Transfection Kit Solution 1 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Mammalian Transfection Kit Solution 2 Not applicable.  
pWL-neo Plasmid Not applicable.

**Storage** : Mammalian Transfection Kit Solution 1 Not applicable.  
Mammalian Transfection Kit Solution 2 Not applicable.  
pWL-neo Plasmid Not applicable.

**Disposal** : Mammalian Transfection Kit Solution 1 Not applicable.  
Mammalian Transfection Kit Solution 2 Not applicable.  
pWL-neo Plasmid Not applicable.

**Hazardous ingredients** : Mammalian Transfection Kit Solution 1 Not applicable.  
Mammalian Transfection Kit Solution 2 Not applicable.

**Supplemental label elements** : Mammalian Transfection Kit Solution 1 Not applicable.  
Mammalian Transfection Kit Solution 2 Safety data sheet available on request.  
pWL-neo Plasmid Not applicable.

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**SECTION 2: Hazards identification**

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Mammalian Transfection Kit Solution 1 Not applicable.  
Mammalian Transfection Kit Solution 2 Not applicable.  
pWL-neo Plasmid Not applicable.

**Special packaging requirements**

**Tactile warning of danger** : Mammalian Transfection Kit Solution 1 Not applicable.  
Mammalian Transfection Kit Solution 2 Not applicable.  
pWL-neo Plasmid Not applicable.

**2.3 Other hazards**

**Other hazards which do not result in classification** : Mammalian Transfection Kit Solution 1 None known.  
Mammalian Transfection Kit Solution 2 None known.  
pWL-neo Plasmid None known.

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

**3.1 Substances** : Mammalian Transfection Kit Solution 1 Mixture  
Mammalian Transfection Kit Solution 2 Mixture  
pWL-neo Plasmid Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<b>Mammalian Transfection Kit Solution 1</b> calcium chloride	EC: 233-140-8 CAS: 10043-52-4 Index: 017-013-00-2	≥25 - ≤50	Eye Irrit. 2, H319	[1]
<b>Mammalian Transfection Kit Solution 2</b> Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≤3	Eye Irrit. 2, H319	[1]
2-[bis(2-Hydroxyethyl)amino]ethanesulphonic acid	EC: 233-465-5 CAS: 10191-18-1	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335  <b>See Section 16 for the full text of the H statements declared above.</b>	[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
- [6] Additional disclosure due to company policy

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**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

<b>Eye contact</b>	: Mammalian Transfection Kit Solution 1	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.
	Mammalian Transfection Kit Solution 2	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.
	pWL-neo Plasmid	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.
<b>Inhalation</b>	: Mammalian Transfection Kit Solution 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If 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.
	Mammalian Transfection Kit Solution 2	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.
	pWL-neo Plasmid	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
<b>Skin contact</b>	: Mammalian Transfection Kit Solution 1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Mammalian Transfection Kit Solution 2	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	pWL-neo Plasmid	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: Mammalian Transfection Kit Solution 1	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. 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.
	Mammalian Transfection Kit Solution 2	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.

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

**Protection of first-aiders** : Mammalian Transfection Kit Solution 1 No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.  
Mammalian Transfection Kit Solution 2 No action shall be taken involving any personal risk or without suitable training.  
pWL-neo Plasmid 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** : Mammalian Transfection Kit Solution 1 Causes serious eye irritation.  
Mammalian Transfection Kit Solution 2 No known significant effects or critical hazards.  
pWL-neo Plasmid No known significant effects or critical hazards.

**Inhalation** : Mammalian Transfection Kit Solution 1 No known significant effects or critical hazards.  
Mammalian Transfection Kit Solution 2 No known significant effects or critical hazards.  
pWL-neo Plasmid No known significant effects or critical hazards.

**Skin contact** : Mammalian Transfection Kit Solution 1 No known significant effects or critical hazards.  
Mammalian Transfection Kit Solution 2 No known significant effects or critical hazards.  
pWL-neo Plasmid No known significant effects or critical hazards.

**Ingestion** : Mammalian Transfection Kit Solution 1 No known significant effects or critical hazards.  
Mammalian Transfection Kit Solution 2 No known significant effects or critical hazards.  
pWL-neo Plasmid No known significant effects or critical hazards.

Over-exposure signs/symptoms

**Eye contact** : Mammalian Transfection Kit Solution 1 Adverse symptoms may include the following:  
pain or irritation  
watering  
redness  
Mammalian Transfection Kit Solution 2 No specific data.  
pWL-neo Plasmid No specific data.

**Inhalation** : Mammalian Transfection Kit Solution 1 No specific data.  
Mammalian Transfection Kit Solution 2 No specific data.  
pWL-neo Plasmid No specific data.

**Skin contact** : Mammalian Transfection Kit Solution 1 No specific data.  
Mammalian Transfection Kit Solution 2 No specific data.  
pWL-neo Plasmid No specific data.

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**SECTION 4: First aid measures**

<b>Ingestion</b>	:	Mammalian Transfection Kit Solution 1	No specific data.
		Mammalian Transfection Kit Solution 2	No specific data.
		pWL-neo Plasmid	No specific data.

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

<b>Notes to physician</b>	:	Mammalian Transfection Kit Solution 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Mammalian Transfection Kit Solution 2	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.
		pWL-neo Plasmid	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	:	Mammalian Transfection Kit Solution 1	No specific treatment.
		Mammalian Transfection Kit Solution 2	No specific treatment.
		pWL-neo Plasmid	No specific treatment.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

<b>Suitable extinguishing media</b>	:	Mammalian Transfection Kit Solution 1	Use an extinguishing agent suitable for the surrounding fire.
		Mammalian Transfection Kit Solution 2	Use an extinguishing agent suitable for the surrounding fire.
		pWL-neo Plasmid	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	:	Mammalian Transfection Kit Solution 1	None known.
		Mammalian Transfection Kit Solution 2	None known.
		pWL-neo Plasmid	None known.

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

<b>Hazards from the substance or mixture</b>	:	Mammalian Transfection Kit Solution 1	In a fire or if heated, a pressure increase will occur and the container may burst.
		Mammalian Transfection Kit Solution 2	In a fire or if heated, a pressure increase will occur and the container may burst.
		pWL-neo Plasmid	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous combustion products</b>	:	Mammalian Transfection Kit Solution 1	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
		Mammalian Transfection Kit Solution 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides
		pWL-neo Plasmid	No specific data.

**5.3 Advice for firefighters**

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**SECTION 5: Firefighting measures**

<b>Special precautions for fire-fighters</b>	: Mammalian Transfection Kit Solution 1	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.
	Mammalian Transfection Kit Solution 2	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.
	pWL-neo Plasmid	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.
<b>Special protective equipment for fire-fighters</b>	: Mammalian Transfection Kit Solution 1	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.
	Mammalian Transfection Kit Solution 2	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.
	pWL-neo Plasmid	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**

<b>For non-emergency personnel</b>	: Mammalian Transfection Kit Solution 1	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.
	Mammalian Transfection Kit Solution 2	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.
	pWL-neo Plasmid	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.
<b>For emergency responders</b>	: Mammalian Transfection Kit Solution 1	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".
	Mammalian Transfection Kit Solution 2	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".
	pWL-neo Plasmid	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".

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**SECTION 6: Accidental release measures**

<b>6.2 Environmental precautions</b>	Mammalian Transfection Kit Solution 1	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).
	Mammalian Transfection Kit Solution 2	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).
	pWL-neo Plasmid	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**

<b>Methods for cleaning up</b>	Mammalian Transfection Kit Solution 1	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.
	Mammalian Transfection Kit Solution 2	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.
	pWL-neo Plasmid	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.

<b>6.4 Reference to other sections</b>	: 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.
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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

<b>Protective measures</b>	Mammalian Transfection Kit Solution 1	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. 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.
	Mammalian Transfection Kit Solution 2	Put on appropriate personal protective equipment (see Section 8).
	pWL-neo Plasmid	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	Mammalian Transfection Kit Solution 1	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.
	Mammalian Transfection Kit Solution 2	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.



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pWL-neo Plasmid	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.
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**7.2 Conditions for safe storage, including any incompatibilities**

<b>Storage</b>	:	Mammalian Transfection Kit Solution 1	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.
		Mammalian Transfection Kit Solution 2	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.
		pWL-neo Plasmid	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.

**7.3 Specific end use(s)**

<b>Recommendations</b>	:	Mammalian Transfection Kit Solution 1	Industrial applications, Professional applications.
		Mammalian Transfection Kit Solution 2	Industrial applications, Professional applications.
		pWL-neo Plasmid	Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	:	Mammalian Transfection Kit Solution 1	Not applicable.
		Mammalian Transfection Kit Solution 2	Not applicable.
		pWL-neo Plasmid	Not applicable.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

Occupational exposure limits

No exposure limit value known.

## SECTION 8: Exposure controls/personal protection

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

### DNELs/DMELs

No DNELs/DMELs available.

### PNECs

No PNECs available

## 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

### 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. 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.

### 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

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	:	Mammalian Transfection Kit Solution 1	Liquid.
		Mammalian Transfection Kit Solution 2	Liquid.
		pWL-neo Plasmid	Liquid.
<b>Colour</b>	:	Mammalian Transfection Kit Solution 1	Not available.
		Mammalian Transfection Kit Solution 2	Not available.
		pWL-neo Plasmid	Not available.
<b>Odour</b>	:	Mammalian Transfection Kit Solution 1	Not available.
		Mammalian Transfection Kit Solution 2	Not available.
		pWL-neo Plasmid	Not available.
<b>Odour threshold</b>	:	Mammalian Transfection Kit Solution 1	Not available.
		Mammalian Transfection Kit Solution 2	Not available.
		pWL-neo Plasmid	Not available.
<b>pH</b>	:	Mammalian Transfection Kit Solution 1	Not available.
		Mammalian Transfection Kit Solution 2	6.95
		pWL-neo Plasmid	7.5
<b>Melting point/freezing point</b>	:	Mammalian Transfection Kit Solution 1	Not available.
		Mammalian Transfection Kit Solution 2	0°C
		pWL-neo Plasmid	0°C
<b>Initial boiling point and boiling range</b>	:	Mammalian Transfection Kit Solution 1	Not available.
		Mammalian Transfection Kit Solution 2	100°C
		pWL-neo Plasmid	100°C
<b>Flash point</b>	:	Mammalian Transfection Kit Solution 1	Not available.
		Mammalian Transfection Kit Solution 2	Not available.
		pWL-neo Plasmid	Not available.

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**SECTION 9: Physical and chemical properties**

<b>Evaporation rate</b>	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	Not available. Not available. Not available.
<b>Flammability (solid, gas)</b>	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	Not applicable. Not applicable. Not applicable.
<b>Upper/lower flammability or explosive limits</b>	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	Not available. Not available. Not available.
<b>Vapour pressure</b>	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	Not available. Not available. Not available.
<b>Vapour density</b>	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	Not available. Not available. Not available.
<b>Relative density</b>	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	Not available. Not available. Not available.
<b>Solubility(ies)</b>	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	Soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	Not available. Not available. Not available.

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**SECTION 9: Physical and chemical properties**

<b>Auto-ignition temperature</b>	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
<b>Decomposition temperature</b>	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
<b>Viscosity</b>	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
<b>Explosive properties</b>	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
<b>Oxidising properties</b>	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	: Mammalian Transfection Kit Solution 1	No specific test data related to reactivity available for this product or its ingredients.
	Mammalian Transfection Kit Solution 2	No specific test data related to reactivity available for this product or its ingredients.
	pWL-neo Plasmid	No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: Mammalian Transfection Kit Solution 1	The product is stable.
	Mammalian Transfection Kit Solution 2	The product is stable.
	pWL-neo Plasmid	The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Mammalian Transfection Kit Solution 1	Under normal conditions of storage and use, hazardous reactions will not occur.
	Mammalian Transfection Kit Solution 2	Under normal conditions of storage and use, hazardous reactions will not occur.
	pWL-neo Plasmid	Under normal conditions of storage and use, hazardous reactions will not occur.

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**SECTION 10: Stability and reactivity**

**10.4 Conditions to avoid** : Mammalian Transfection Kit Solution 1 No specific data.  
Mammalian Transfection Kit Solution 2 No specific data.  
pWL-neo Plasmid No specific data.

**10.5 Incompatible materials** : Mammalian Transfection Kit Solution 1 May react or be incompatible with oxidising materials.  
Mammalian Transfection Kit Solution 2 May react or be incompatible with oxidising materials.  
pWL-neo Plasmid May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products** : Mammalian Transfection Kit Solution 1 Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
Mammalian Transfection Kit Solution 2 Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
pWL-neo Plasmid 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
Mammalian Transfection Kit Solution 1 calcium chloride	LD50 Oral	Rat	1 g/kg	-
Mammalian Transfection Kit Solution 2 Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Mammalian Transfection Kit Solution 2 Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitiser

**Conclusion/Summary** : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Mammalian Transfection Kit Solution 2 2-[bis(2-Hydroxyethyl)amino]ethanesulphonic acid	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

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**SECTION 11: Toxicological information**

**Aspiration hazard**

Not available.

**Information on likely routes of exposure** : Mammalian Transfection Kit Solution 1 Routes of entry anticipated: Oral, Dermal, Inhalation.  
Mammalian Transfection Kit Solution 2 Routes of entry anticipated: Oral, Dermal, Inhalation.  
pWL-neo Plasmid Not available.

**Potential acute health effects**

**Inhalation** : Mammalian Transfection Kit Solution 1 No known significant effects or critical hazards.  
Mammalian Transfection Kit Solution 2 No known significant effects or critical hazards.  
pWL-neo Plasmid No known significant effects or critical hazards.

**Ingestion** : Mammalian Transfection Kit Solution 1 No known significant effects or critical hazards.  
Mammalian Transfection Kit Solution 2 No known significant effects or critical hazards.  
pWL-neo Plasmid No known significant effects or critical hazards.

**Skin contact** : Mammalian Transfection Kit Solution 1 No known significant effects or critical hazards.  
Mammalian Transfection Kit Solution 2 No known significant effects or critical hazards.  
pWL-neo Plasmid No known significant effects or critical hazards.

**Eye contact** : Mammalian Transfection Kit Solution 1 Causes serious eye irritation.  
Mammalian Transfection Kit Solution 2 No known significant effects or critical hazards.  
pWL-neo Plasmid No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Inhalation** : Mammalian Transfection Kit Solution 1 No specific data.  
Mammalian Transfection Kit Solution 2 No specific data.  
pWL-neo Plasmid No specific data.

**Ingestion** : Mammalian Transfection Kit Solution 1 No specific data.  
Mammalian Transfection Kit Solution 2 No specific data.  
pWL-neo Plasmid No specific data.

**Skin contact** : Mammalian Transfection Kit Solution 1 No specific data.  
Mammalian Transfection Kit Solution 2 No specific data.  
pWL-neo Plasmid No specific data.

**Eye contact** : Mammalian Transfection Kit Solution 1 Adverse symptoms may include the following:  
pain or irritation  
watering  
redness  
Mammalian Transfection Kit Solution 2 No specific data.  
pWL-neo Plasmid 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.

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**SECTION 11: Toxicological information**

**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Potential chronic health effects**

<b>General</b>	: Mammalian Transfection Kit Solution 1	No known significant effects or critical hazards.
	Mammalian Transfection Kit Solution 2	No known significant effects or critical hazards.
	pWL-neo Plasmid	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: Mammalian Transfection Kit Solution 1	No known significant effects or critical hazards.
	Mammalian Transfection Kit Solution 2	No known significant effects or critical hazards.
	pWL-neo Plasmid	No known significant effects or critical hazards.
<b>Mutagenicity</b>	: Mammalian Transfection Kit Solution 1	No known significant effects or critical hazards.
	Mammalian Transfection Kit Solution 2	No known significant effects or critical hazards.
	pWL-neo Plasmid	No known significant effects or critical hazards.
<b>Teratogenicity</b>	: Mammalian Transfection Kit Solution 1	No known significant effects or critical hazards.
	Mammalian Transfection Kit Solution 2	No known significant effects or critical hazards.
	pWL-neo Plasmid	No known significant effects or critical hazards.
<b>Developmental effects</b>	: Mammalian Transfection Kit Solution 1	No known significant effects or critical hazards.
	Mammalian Transfection Kit Solution 2	No known significant effects or critical hazards.
	pWL-neo Plasmid	No known significant effects or critical hazards.
<b>Fertility effects</b>	: Mammalian Transfection Kit Solution 1	No known significant effects or critical hazards.
	Mammalian Transfection Kit Solution 2	No known significant effects or critical hazards.
	pWL-neo Plasmid	No known significant effects or critical hazards.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
<b>Mammalian Transfection Kit Solution 1</b> calcium chloride	Acute EC50 3130000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 464000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 270 mg/l Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 2110 mg/l Fresh water	Fish - Pimephales promelas	96 hours
<b>Mammalian Transfection Kit Solution 2</b> Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	48 hours



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**SECTION 12: Ecological information**

	Acute IC50 6.87 g/L Fresh water Acute LC50 1000000 µg/l Fresh water Chronic LC10 781 mg/l Fresh water	Aquatic plants - Lemna minor Fish - Morone saxatilis - Larvae Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	96 hours 96 hours 3 weeks
	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks

**12.2 Persistence and degradability**

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<b>Mammalian Transfection Kit Solution 1</b> calcium chloride	-	-	Readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>Mammalian Transfection Kit Solution 1</b> calcium chloride	<3	-	low

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

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## SECTION 14: Transport information

ADR/RID / IMDG / IATA : Not regulated.

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

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** : Not available.

## SECTION 15: Regulatory information

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

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

##### Annex XIV - List of substances subject to authorisation

###### Annex XIV

None of the components are listed.

###### Substances of very high concern

None of the components are listed.

<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	Mammalian Transfection Kit	Not applicable.
	Solution 1	
	Mammalian Transfection Kit	Not applicable.
	Solution 2	
	pWL-neo Plasmid	Not applicable.

#### Other EU regulations

##### Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

##### Seveso Directive

This product is not controlled under the Seveso Directive.

#### International regulations

##### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

##### Stockholm Convention on Persistent Organic Pollutants

Not listed.

##### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

##### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

#### Inventory list

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Europe</b>	: All components are listed or exempted.

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**SECTION 15: Regulatory information**

<b>Japan</b>	: <b>Japan inventory (ENCS):</b> All components are listed or exempted. <b>Japan inventory (ISHL):</b> All components are listed or exempted.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are listed or exempted.
<b>Viet Nam</b>	: Not determined.

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

**SECTION 16: Other information**

Indicates information that has changed from previously issued version.

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

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

Classification	Justification
<b>Mammalian Transfection Kit Solution 1</b> Eye Irrit. 2, H319	Calculation method

**Full text of abbreviated H statements**

<b>Mammalian Transfection Kit Solution 1</b> H319	Causes serious eye irritation.
<b>Mammalian Transfection Kit Solution 2</b> H315 H319 H335	Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

**Full text of classifications [CLP/GHS]**

<b>Mammalian Transfection Kit Solution 1</b> Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
<b>Mammalian Transfection Kit Solution 2</b> Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT SE 3, H335	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

**Date of issue/ Date of revision** : 31/12/2017  
**Date of previous issue** : No previous validation.  
**Version** : 1

**Notice to reader**

*Mammalian Transfection Calcium Phosphate Kit, Part Number 200385*

## **SECTION 16: Other information**

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