

SAFETY DATA SHEET

Mammalian Transfection Calcium Phosphate Kit, Part Number 200385

Section 1. Identification

1.1 Product identifier

Product name	: Mammalian Transfection Calcium Phosphate Kit, Part Number 200385		
Part No. (Chemical Kit)	: 200385		
Part No.	<input checked="" type="checkbox"/> Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	200285-81 200285-82 200285-85	
Validation date	: 12/31/2017		

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

Material uses	: Analytical reagent.		
	<input checked="" type="checkbox"/> Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	1.5 ml 15 ml 0.04 ml (40 µg)	

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer	: Agilent Technologies, Inc. 5301 Stevens Creek Blvd Santa Clara, CA 95051, USA 800-227-9770
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1.4 Emergency telephone number

In case of emergency	: CHEMTREC®: 1-800-424-9300
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Section 2. Hazards identification


2.1 Classification of the substance or mixture

OSHA/HCS status	<input checked="" type="checkbox"/> Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product. While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
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Classification of the substance or mixture

<input checked="" type="checkbox"/> Mammalian Transfection Kit Solution 1 H319	EYE IRRITATION - Category 2A
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Section 2. Hazards identification

Ingredients of unknown toxicity	<ul style="list-style-type: none"> ▶ Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 	<ul style="list-style-type: none"> Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 30 - 60% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60% 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%
<u>2.2 GHS label elements</u>		
Hazard pictograms	<ul style="list-style-type: none"> ▶ Mammalian Transfection Kit Solution 1 	
Signal word	<ul style="list-style-type: none"> ▶ Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid 	<ul style="list-style-type: none"> Warning No signal word. No signal word.
Hazard statements	<ul style="list-style-type: none"> ▶ Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid 	<ul style="list-style-type: none"> H319 - Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.
<u>Precautionary statements</u>		
Prevention	<ul style="list-style-type: none"> ▶ Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid 	<ul style="list-style-type: none"> P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling. Not applicable. Not applicable.
Response	<ul style="list-style-type: none"> ▶ Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid 	<ul style="list-style-type: none"> P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention. Not applicable. Not applicable.
Storage	<ul style="list-style-type: none"> ▶ Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable.
Disposal	<ul style="list-style-type: none"> ▶ Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable.

Section 2. Hazards identification

Supplemental label elements	: Mammalian Transfection Kit Solution 1	None known.
	Mammalian Transfection Kit Solution 2	None known.
	pWL-neo Plasmid	None known.

2.3 Other hazards

Hazards not otherwise classified	: 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

Substance/mixture	: Mammalian Transfection Kit Solution 1	Mixture
	Mammalian Transfection Kit Solution 2	Mixture
	pWL-neo Plasmid	Mixture

Ingredient name	%	CAS number
Mammalian Transfection Kit Solution 1 calcium chloride	≥25 - <50	10043-52-4
Mammalian Transfection Kit Solution 2 Sodium chloride	≤3	7647-14-5
2-[bis(2-Hydroxyethyl)amino]ethanesulphonic acid	≤3	10191-18-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact	: 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.

Section 4. First aid measures

Inhalation

: 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.

Skin contact

: 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.

Ingestion

: 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.

pWL-neo Plasmid

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable

Section 4. First aid measures

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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

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

Over-exposure signs/symptoms

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

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Section 4. First aid measures

Notes to physician	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	No specific treatment. No specific treatment. No specific treatment.
Protection of first-aiders	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	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. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2 pWL-neo Plasmid	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: Mammalian Transfection Kit Solution 1 Mammalian Transfection Kit Solution 2	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides

Section 5. Fire-fighting measures

sulfur oxides
halogenated compounds
metal oxide/oxides
No specific data.

pWL-neo Plasmid

5.3 Advice for firefighters

Special protective actions for fire-fighters

: 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.

Special protective equipment for fire-fighters

: 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.

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.

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.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: 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 spilled material. Avoid breathing vapor 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 spilled 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 spilled material. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

<p>For emergency responders :</p>	<p>☑ Mammalian Transfection Kit Solution 1</p> <p>Mammalian Transfection Kit Solution 2</p> <p>pWL-neo Plasmid</p>	<p>If specialized 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".</p> <p>If specialized 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".</p> <p>If specialized 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".</p>
<p>6.2 Environmental precautions :</p>	<p>☑ Mammalian Transfection Kit Solution 1</p> <p>Mammalian Transfection Kit Solution 2</p> <p>pWL-neo Plasmid</p>	<p>Avoid dispersal of spilled 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).</p> <p>Avoid dispersal of spilled 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).</p> <p>Avoid dispersal of spilled 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).</p>
<p>6.3 Methods and materials for containment and cleaning up</p>	<p>Methods for cleaning up :</p>	<p>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.</p> <p>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.</p> <p>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.</p>
<p>Methods for cleaning up :</p>	<p>☑ Mammalian Transfection Kit Solution 1</p> <p>Mammalian Transfection Kit Solution 2</p> <p>pWL-neo Plasmid</p>	<p>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.</p> <p>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.</p> <p>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.</p>

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures	:  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 vapor 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 pWL-neo Plasmid	Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	:  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.
	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.
7.2 Conditions for safe storage, including any incompatibilities	:  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 unlabeled 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 7. Handling and storage

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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations	: 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.
Industrial sector specific solutions	: 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

Ingredient name	Exposure limits
Mammalian Transfection Kit Solution 1 calcium chloride	None.
Mammalian Transfection Kit Solution 2 Sodium chloride	None.
2-[bis(2-Hydroxyethyl)amino]ethanesulphonic acid	None.

8.2 Exposure controls

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

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.

Section 8. Exposure controls/personal protection

Skin protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- 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.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Mammalian Transfection Kit Solution 1	Liquid.
	Mammalian Transfection Kit Solution 2	Liquid.
	pWL-neo Plasmid	Liquid.
Color	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
Odor	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
Odor threshold	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
pH	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	6.95
	pWL-neo Plasmid	7.5
Melting point	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	0°C (32°F)
	pWL-neo Plasmid	0°C (32°F)

Section 9. Physical and chemical properties

Boiling point	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	100°C (212°F)
	pWL-neo Plasmid	100°C (212°F)
Flash point	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
Evaporation rate	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
Flammability (solid, gas)	: Mammalian Transfection Kit Solution 1	Not applicable.
	Mammalian Transfection Kit Solution 2	Not applicable.
	pWL-neo Plasmid	Not applicable.
Lower and upper explosive (flammable) limits	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
Vapor pressure	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
Vapor density	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
Relative density	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
Solubility	: Mammalian Transfection Kit Solution 1	Soluble in the following materials: cold water and hot water.
	Mammalian Transfection Kit Solution 2	Easily soluble in the following materials: cold water and hot water.
	pWL-neo Plasmid	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
Auto-ignition temperature	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.

Section 9. Physical and chemical properties

Decomposition temperature	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.
Viscosity	: Mammalian Transfection Kit Solution 1	Not available.
	Mammalian Transfection Kit Solution 2	Not available.
	pWL-neo Plasmid	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: 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.
10.2 Chemical stability	: 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.
10.3 Possibility of hazardous reactions	: 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.
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 oxidizing materials.
	Mammalian Transfection Kit Solution 2	May react or be incompatible with oxidizing materials.
	pWL-neo Plasmid	May react or be incompatible with oxidizing 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	-

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	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

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.

Aspiration hazard

Not available.

Information on the likely routes of exposure

: Mammalian Transfection Kit Solution 1
Mammalian Transfection Kit Solution 2
pWL-neo Plasmid

Routes of entry anticipated: Oral, Dermal, Inhalation.

Routes of entry anticipated: Oral, Dermal, Inhalation.
Not available.

Potential acute health effects

Section 11. Toxicological information

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.

Symptoms related to the physical, chemical and toxicological characteristics

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

Section 11. Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

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

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
<input checked="" type="checkbox"/> Mammalian Transfection Kit Solution 1 Oral	2717.4 mg/kg
Mammalian Transfection Kit Solution 2 Oral	187537.5 mg/kg

Section 12. Ecological information

12.1 Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
Mammalian Transfection Kit Solution 1 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
Mammalian Transfection Kit Solution 2 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
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks	

12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Mammalian Transfection Kit Solution 1 calcium chloride	<3	-	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a

Section 13. Disposal considerations

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.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

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.

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

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
Clean Water Act (CWA) 311: Edetic acid; Disodium hydrogenorthophosphate

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Section 15. Regulatory information

Classification	:	Mammalian Transfection Kit Solution 1	EYE IRRITATION - Category 2A
		Mammalian Transfection Kit Solution 2	Not applicable.
		pWL-neo Plasmid	Not applicable.

Composition/information on ingredients

Name	%	Classification
Mammalian Transfection Kit Solution 1 calcium chloride	≥25 - <50	ACUTE TOXICITY (oral) - Category 4 EYE IRRITATION - Category 2A
Mammalian Transfection Kit Solution 2 Sodium chloride	≤3	EYE IRRITATION - Category 2A
2-[bis(2-Hydroxyethyl)amino]ethanesulphonic acid	≤3	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

State regulations

Massachusetts	:	None of the components are listed.
New York	:	None of the components are listed.
New Jersey	:	None of the components are listed.
Pennsylvania	:	None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	:	All components are listed or exempted.
Canada	:	All components are listed or exempted.
China	:	All components are listed or exempted.
Europe	:	All components are listed or exempted.
Japan	:	Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): All components are listed or exempted.
Malaysia	:	Not determined.
New Zealand	:	All components are listed or exempted.
Philippines	:	All components are listed or exempted.
Republic of Korea	:	Not determined.
Taiwan	:	All components are listed or exempted.

Section 15. Regulatory information

Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: <input checked="" type="checkbox"/> Not determined.
United States	: All components are listed or exempted.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

Section 16. Other information

History

Date of issue	: 12/31/2017
Date of previous issue	: 09/30/2015.
Version	: 2

Indicates information that has changed from previously issued version.

Notice to reader

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