

SAFETY DATA SHEET

ViraPack Transfection Kit, Part Number 200488

Section 1. Identification

Product identifier	: ViraPack Transfection Kit, Part Number 200488		
Part no. (chemical kit)	: 200488		
Part no.	ViraPack Transfection Kit Solution 1	200488-51	
	ViraPack Transfection Kit Solution 2	200488-52	
	Virapack Transfection Kit Solution 3	200488-53	
	pCMV β -Gal Control Plasmid	200388-54	
Material uses	: Analytical reagent.		
	ViraPack Transfection Kit Solution 1	5 ml	
	ViraPack Transfection Kit Solution 2	25 ml	
	Virapack Transfection Kit Solution 3	40 ml	
	pCMV β -Gal Control Plasmid	0.04 ml (40 μ g	1 μ g/ μ l)
Supplier/Manufacturer	: Agilent Technologies, Inc. 5301 Stevens Creek Blvd Santa Clara, CA 95051, USA 800-227-9770		
Emergency telephone number (with hours of operation)	: CHEMTREC®: 1-800-424-9300		

Section 2. Hazard identification

Classification of the substance or mixture

ViraPack Transfection Kit Solution 1
H319

EYE IRRITATION - Category 2A

Virapack Transfection Kit Solution 3

Health Hazards Not Otherwise Classified - Category 1

GHS label elements

Hazard pictograms

: **ViraPack Transfection Kit Solution 1**



Virapack Transfection Kit Solution 3



Signal word

: **ViraPack Transfection Kit Solution 1** Warning
 ViraPack Transfection Kit Solution 2 No signal word.
 Virapack Transfection Kit Solution 3 Danger
 pCMV β -Gal Control Plasmid No signal word.

Section 2. Hazard identification

Hazard statements	: <input checked="" type="checkbox"/> ViraPack Transfection Kit Solution 1	H319 - Causes serious eye irritation.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	Prolonged or repeated contact may dry skin and cause irritation.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
<u>Precautionary statements</u>		
Prevention	: <input checked="" type="checkbox"/> ViraPack Transfection Kit Solution 1	P280 - Wear eye or face protection.
	ViraPack Transfection Kit Solution 2	Not applicable.
	Virapack Transfection Kit Solution 3	Not applicable.
	pCMV β -Gal Control Plasmid	Not applicable.
	Response	: <input checked="" type="checkbox"/> ViraPack Transfection Kit Solution 1
Storage	ViraPack Transfection Kit Solution 2	Not applicable.
	Virapack Transfection Kit Solution 3	Not applicable.
	pCMV β -Gal Control Plasmid	Not applicable.
	: ViraPack Transfection Kit Solution 1	Not applicable.
	ViraPack Transfection Kit Solution 2	Not applicable.
Disposal	Virapack Transfection Kit Solution 3	Not applicable.
	pCMV β -Gal Control Plasmid	Not applicable.
	: ViraPack Transfection Kit Solution 1	Not applicable.
	ViraPack Transfection Kit Solution 2	Not applicable.
	Virapack Transfection Kit Solution 3	Not applicable.
Supplemental label elements	pCMV β -Gal Control Plasmid	Not applicable.
	: <input checked="" type="checkbox"/> ViraPack Transfection Kit Solution 1	None known.
	ViraPack Transfection Kit Solution 2	None known.
	Virapack Transfection Kit Solution 3	Avoid contact with skin and clothing. Wash thoroughly after handling.
	pCMV β -Gal Control Plasmid	None known.
Other hazards which do not result in classification	<input checked="" type="checkbox"/> Virapack Transfection Kit Solution 3	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 98.8%
	: ViraPack Transfection Kit Solution 1	None known.
	ViraPack Transfection Kit Solution 2	None known.
	Virapack Transfection Kit Solution 3	None known.
	pCMV β -Gal Control Plasmid	None known.

Section 3. Composition/information on ingredients

Substance/mixture	: ViraPack Transfection Kit Solution 1	Mixture
	ViraPack Transfection Kit Solution 2	Mixture
	Virapack Transfection Kit Solution 3	Mixture
	pCMV β -Gal Control Plasmid	Mixture

Ingredient name	% (w/w)	CAS number
ViraPack Transfection Kit Solution 1 Calcium chloride (CaCl ₂), dihydrate	15 - 40	10035-04-8
ViraPack Transfection Kit Solution 2 Sodium chloride	1 - 5	7647-14-5
Virapack Transfection Kit Solution 3 Ethanol	0.5 - 1.5	64-17-5

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

Description of necessary first aid measures

Eye contact	: ViraPack 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.
	ViraPack 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.
	Virapack Transfection Kit Solution 3	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.
	pCMV β -Gal Control 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.
Inhalation	: ViraPack 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.
	ViraPack 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.
	Virapack Transfection Kit	Remove victim to fresh air and keep at rest in a

Section 4. First-aid measures

	Solution 3	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. 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.
	pCMV β -Gal Control Plasmid	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: ViraPack 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.
	ViraPack Transfection Kit Solution 2	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Virapack Transfection Kit Solution 3	Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	pCMV β -Gal Control Plasmid	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: ViraPack 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.
	ViraPack 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.
	Virapack Transfection Kit Solution 3	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

Section 4. First-aid measures

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.

pCMV β -Gal Control 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: ViraPack Transfection Kit Solution 1	Causes serious eye irritation.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	No known significant effects or critical hazards.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
Inhalation	: ViraPack Transfection Kit Solution 1	No known significant effects or critical hazards.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	No known significant effects or critical hazards.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
Skin contact	: ViraPack Transfection Kit Solution 1	No known significant effects or critical hazards.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	Defatting to the skin. May cause skin dryness and irritation.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
Ingestion	: ViraPack Transfection Kit Solution 1	No known significant effects or critical hazards.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	No known significant effects or critical hazards.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: ViraPack Transfection Kit Solution 1	Adverse symptoms may include the following: pain or irritation watering redness
	ViraPack Transfection Kit Solution 2	No specific data.
	Virapack Transfection Kit Solution 3	No specific data.
	pCMV β -Gal Control Plasmid	No specific data.

Section 4. First-aid measures

Inhalation	: ViraPack Transfection Kit Solution 1	No specific data.
	ViraPack Transfection Kit Solution 2	No specific data.
	Virapack Transfection Kit Solution 3	No specific data.
	pCMV β -Gal Control Plasmid	No specific data.
Skin contact	: <input checked="" type="checkbox"/> ViraPack Transfection Kit Solution 1	No specific data.
	ViraPack Transfection Kit Solution 2	No specific data.
	Virapack Transfection Kit Solution 3	Adverse symptoms may include the following: irritation dryness cracking
	pCMV β -Gal Control Plasmid	No specific data.
Ingestion	: ViraPack Transfection Kit Solution 1	No specific data.
	ViraPack Transfection Kit Solution 2	No specific data.
	Virapack Transfection Kit Solution 3	No specific data.
	pCMV β -Gal Control Plasmid	No specific data.

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

Notes to physician	: ViraPack Transfection Kit Solution 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	ViraPack 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.
	Virapack Transfection Kit Solution 3	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.
	pCMV β -Gal Control Plasmid	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: ViraPack Transfection Kit Solution 1	No specific treatment.
	ViraPack Transfection Kit Solution 2	No specific treatment.
	Virapack Transfection Kit Solution 3	No specific treatment.
	pCMV β -Gal Control Plasmid	No specific treatment.
Protection of first-aiders	: <input checked="" type="checkbox"/> ViraPack 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.
	ViraPack Transfection Kit Solution 2	No action shall be taken involving any personal risk or without suitable training.
	Virapack Transfection Kit Solution 3	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.
	pCMV β -Gal Control Plasmid	No action shall be taken involving any personal risk or without suitable training.

Section 4. First-aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: ViraPack Transfection Kit Solution 1	Use an extinguishing agent suitable for the surrounding fire.
	ViraPack Transfection Kit Solution 2	Use an extinguishing agent suitable for the surrounding fire.
	Virapack Transfection Kit Solution 3	Use an extinguishing agent suitable for the surrounding fire.
	pCMV β -Gal Control Plasmid	Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media	: ViraPack Transfection Kit Solution 1	None known.
	ViraPack Transfection Kit Solution 2	None known.
	Virapack Transfection Kit Solution 3	None known.
	pCMV β -Gal Control Plasmid	None known.

Specific hazards arising from the chemical

:	ViraPack Transfection Kit Solution 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	ViraPack Transfection Kit Solution 2	In a fire or if heated, a pressure increase will occur and the container may burst.
	Virapack Transfection Kit Solution 3	In a fire or if heated, a pressure increase will occur and the container may burst.
	pCMV β -Gal Control Plasmid	In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products

:	ViraPack Transfection Kit Solution 1	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
	ViraPack Transfection Kit Solution 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides
	Virapack Transfection Kit Solution 3	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
	pCMV β -Gal Control Plasmid	No specific data.

Special protective actions for fire-fighters

:	ViraPack 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.
	ViraPack 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.
	Virapack Transfection Kit	Promptly isolate the scene by removing all persons


Section 5. Fire-fighting measures

	Solution 3	from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	pCMV β -Gal Control 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	: ViraPack 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.
	ViraPack 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.
	Virapack Transfection Kit Solution 3	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	pCMV β -Gal Control 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

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

:  ViraPack 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.
ViraPack 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.
Virapack Transfection Kit Solution 3	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.
pCMV β -Gal Control 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

For emergency responders	: ViraPack Transfection Kit Solution 1	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".
	ViraPack Transfection Kit Solution 2	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".
	Virapack Transfection Kit Solution 3	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".
	pCMV β -Gal Control Plasmid	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".

Environmental precautions	: ViraPack Transfection Kit Solution 1	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).
	ViraPack Transfection Kit Solution 2	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).
	Virapack Transfection Kit Solution 3	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).
	pCMV β -Gal Control Plasmid	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).

Methods and materials for containment and cleaning up

Methods for cleaning up	: ViraPack 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.
	ViraPack 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.
	Virapack Transfection Kit Solution 3	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.
	pCMV β -Gal Control 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

Section 6. Accidental release measures

inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: ViraPack 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.
ViraPack Transfection Kit Solution 2	Put on appropriate personal protective equipment (see Section 8).
Virapack Transfection Kit Solution 3	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.
pCMV β -Gal Control Plasmid	Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

: ViraPack 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.
ViraPack 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.
Virapack Transfection Kit Solution 3	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.
pCMV β -Gal Control 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.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities	: ViraPack 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.
	ViraPack 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.
	Virapack Transfection Kit Solution 3	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.
	pCMV β -Gal Control 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.

Section 8. Exposure controls/personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
Virapack Transfection Kit Solution 3 Ethanol	CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 1000 ppm 8 hours. 8 hrs OEL: 1880 mg/m ³ 8 hours. CA British Columbia Provincial (Canada, 1/2020). STEL: 1000 ppm 15 minutes. CA Ontario Provincial (Canada, 6/2019). STEL: 1000 ppm 15 minutes.

Section 8. Exposure controls/personal protection

CA Quebec Provincial (Canada, 7/2019).
 TWAEV: 1000 ppm 8 hours.
 TWAEV: 1880 mg/m³ 8 hours.
CA Saskatchewan Provincial (Canada, 7/2013).
 STEL: 1250 ppm 15 minutes.
 TWA: 1000 ppm 8 hours.

- 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: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- 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

Appearance

- Physical state** :
- | | |
|--------------------------------------|---------|
| ViraPack Transfection Kit Solution 1 | Liquid. |
| ViraPack Transfection Kit Solution 2 | Liquid. |
| Virapack Transfection Kit Solution 3 | Liquid. |
| pCMV β-Gal Control Plasmid | Liquid. |

Section 9. Physical and chemical properties

Color	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Odor	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Odor threshold	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
pH	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	6.95
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Melting point	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	0°C (32°F)
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	0°C (32°F)
Boiling point	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	100°C (212°F)
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	100°C (212°F)
Flash point	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Evaporation rate	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.

Section 9. Physical and chemical properties

Flammability (solid, gas)	: ViraPack Transfection Kit Solution 1	Not applicable.
	ViraPack Transfection Kit Solution 2	Not applicable.
	Virapack Transfection Kit Solution 3	Not applicable.
	pCMV β -Gal Control Plasmid	Not applicable.
Lower and upper explosive (flammable) limits	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Vapor pressure	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Vapor density	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Relative density	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Solubility	: ViraPack Transfection Kit Solution 1	Soluble in the following materials: cold water and hot water.
	ViraPack Transfection Kit Solution 2	Easily soluble in the following materials: cold water and hot water.
	Virapack Transfection Kit Solution 3	Easily soluble in the following materials: cold water and hot water.
	pCMV β -Gal Control Plasmid	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Auto-ignition temperature	: ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.

Section 9. Physical and chemical properties

Decomposition temperature	ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Viscosity	ViraPack Transfection Kit Solution 1	Not available.
	ViraPack Transfection Kit Solution 2	Not available.
	Virapack Transfection Kit Solution 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.

Section 10. Stability and reactivity

Reactivity	ViraPack Transfection Kit Solution 1	No specific test data related to reactivity available for this product or its ingredients.
	ViraPack Transfection Kit Solution 2	No specific test data related to reactivity available for this product or its ingredients.
	Virapack Transfection Kit Solution 3	No specific test data related to reactivity available for this product or its ingredients.
	pCMV β -Gal Control Plasmid	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	ViraPack Transfection Kit Solution 1	The product is stable.
	ViraPack Transfection Kit Solution 2	The product is stable.
	Virapack Transfection Kit Solution 3	The product is stable.
	pCMV β -Gal Control Plasmid	The product is stable.
Possibility of hazardous reactions	ViraPack Transfection Kit Solution 1	Under normal conditions of storage and use, hazardous reactions will not occur.
	ViraPack Transfection Kit Solution 2	Under normal conditions of storage and use, hazardous reactions will not occur.
	Virapack Transfection Kit Solution 3	Under normal conditions of storage and use, hazardous reactions will not occur.
	pCMV β -Gal Control Plasmid	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	ViraPack Transfection Kit Solution 1	No specific data.
	ViraPack Transfection Kit Solution 2	No specific data.
	Virapack Transfection Kit Solution 3	No specific data.
	pCMV β -Gal Control Plasmid	No specific data.
Incompatible materials	ViraPack Transfection Kit Solution 1	May react or be incompatible with oxidizing materials.
	ViraPack Transfection Kit Solution 2	May react or be incompatible with oxidizing materials.
	Virapack Transfection Kit Solution 3	May react or be incompatible with oxidizing materials.
	pCMV β -Gal Control Plasmid	May react or be incompatible with oxidizing materials.

Section 10. Stability and reactivity

Hazardous decomposition products	: ViraPack Transfection Kit Solution 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	ViraPack Transfection Kit Solution 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Virapack Transfection Kit Solution 3	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pCMV β -Gal Control Plasmid	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ViraPack Transfection Kit Solution 2 Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
Virapack Transfection Kit Solution 3 Ethanol	LC50 Inhalation Vapor LD50 Oral	Rat Rat	124700 mg/m ³ 7 g/kg	4 hours -

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
ViraPack Transfection Kit Solution 2 Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Virapack Transfection Kit Solution 3 Ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	0.06666667 minutes 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	100 uL	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Section 11. Toxicological information

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Virapack Transfection Kit Solution 3 Ethanol	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure	: ViraPack Transfection Kit Solution 1	Routes of entry anticipated: Oral, Dermal, Inhalation.
	ViraPack Transfection Kit Solution 2	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Virapack Transfection Kit Solution 3	Routes of entry anticipated: Oral, Dermal, Inhalation.
	pCMV β -Gal Control Plasmid	Not available.

Potential acute health effects

Eye contact	: ViraPack Transfection Kit Solution 1	Causes serious eye irritation.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	No known significant effects or critical hazards.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
Inhalation	: ViraPack Transfection Kit Solution 1	No known significant effects or critical hazards.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	No known significant effects or critical hazards.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
Skin contact	: <input checked="" type="checkbox"/> ViraPack Transfection Kit Solution 1	No known significant effects or critical hazards.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	Defatting to the skin. May cause skin dryness and irritation.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
Ingestion	: ViraPack Transfection Kit Solution 1	No known significant effects or critical hazards.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	No known significant effects or critical hazards.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: ViraPack Transfection Kit Solution 1	Adverse symptoms may include the following: pain or irritation watering redness
	ViraPack Transfection Kit Solution 2	No specific data.

Section 11. Toxicological information

	Virapack Transfection Kit Solution 3	No specific data.
	pCMV β -Gal Control Plasmid	No specific data.
Inhalation	: ViraPack Transfection Kit Solution 1	No specific data.
	ViraPack Transfection Kit Solution 2	No specific data.
	Virapack Transfection Kit Solution 3	No specific data.
	pCMV β -Gal Control Plasmid	No specific data.
Skin contact	: ViraPack Transfection Kit Solution 1	No specific data.
	ViraPack Transfection Kit Solution 2	No specific data.
	Virapack Transfection Kit Solution 3	Adverse symptoms may include the following:
		irritation
		dryness
		cracking
	pCMV β -Gal Control Plasmid	No specific data.
Ingestion	: ViraPack Transfection Kit Solution 1	No specific data.
	ViraPack Transfection Kit Solution 2	No specific data.
	Virapack Transfection Kit Solution 3	No specific data.
	pCMV β -Gal Control 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.

Potential delayed effects : Not available.

Potential chronic health effects

General	: ViraPack Transfection Kit Solution 1	No known significant effects or critical hazards.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
Carcinogenicity	: ViraPack Transfection Kit Solution 1	No known significant effects or critical hazards.
	ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
	Virapack Transfection Kit Solution 3	No known significant effects or critical hazards.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.

Section 11. Toxicological information

Mutagenicity	:	ViraPack Transfection Kit Solution 1	No known significant effects or critical hazards.
		ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
		Virapack Transfection Kit Solution 3	No known significant effects or critical hazards.
		pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
	Reproductive toxicity	:	ViraPack Transfection Kit Solution 1
		ViraPack Transfection Kit Solution 2	No known significant effects or critical hazards.
		Virapack Transfection Kit Solution 3	No known significant effects or critical hazards.
		pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
ViraPack Transfection Kit Solution 2 ViraPack Transfection Kit Solution 2 Sodium chloride	187500 3000	N/A N/A	N/A N/A	N/A N/A	N/A N/A
Virapack Transfection Kit Solution 3 Ethanol	7000	N/A	N/A	124.7	N/A

Other information	:	ViraPack Transfection Kit Solution 1	Not available.
		ViraPack Transfection Kit Solution 2	Adverse symptoms may include the following: May cause skin sensitization.
		Virapack Transfection Kit Solution 3	Not available.
		pCMV β -Gal Control Plasmid	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
ViraPack Transfection Kit Solution 1 Calcium chloride (CaCl ₂), dihydrate	Acute EC50 2900 mg/l Fresh water	Algae	72 hours
	Acute NOEC 2000 mg/l Fresh water	Daphnia	48 hours
ViraPack 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 IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 μ g/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling,	3 weeks

Section 12. Ecological information

Virapack Transfection Kit Solution 3 Ethanol	Chronic NOEC 6 g/L Fresh water	Weanling)	
	Chronic NOEC 0.314 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 100 mg/l Fresh water	Daphnia - Daphnia pulex	21 days
		Fish - Gambusia holbrooki - Adult	8 weeks
	Acute EC50 3306 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 1074 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 5680 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 11000000 µg/l Marine water	Fish - Alburnus alburnus	96 hours
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 100 µl/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Virapack Transfection Kit Solution 3 Ethanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Virapack Transfection Kit Solution 3 Ethanol	-0.35	0.5	low

Mobility in soil

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

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

Section 13. Disposal considerations

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 safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

TDG / 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 IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Europe : Not determined.

Japan : **Japan inventory (ENCS):** Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

Turkey : Not determined.

United States : Not determined.

Viet Nam : Not determined.

Section 16. Other information

History

Date of issue/Date of revision : 07/19/2021


Date of previous issue : 04/08/2019

Version : 6

Key to abbreviations

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 HPR = Hazardous Products Regulations
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 UN = United Nations

Procedure used to derive the classification

Classification	Justification
 ViraPack Transfection Kit Solution 1 EYE IRRITATION - Category 2A	Calculation method
Virapack Transfection Kit Solution 3 Health Hazards Not Otherwise Classified - Category 1	Calculation method

References : Not available.

 Indicates information that has changed from previously issued version.

Notice to reader

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