


Section 2. Hazards identification

2.2 GHS label elements

Hazard pictograms	: MBS Transfection Kit Solution 1	
Signal word	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solution 3 pCMV β-Gal Control Plasmid	Warning No signal word. Warning No signal word.
Hazard statements	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solution 3 pCMV β-Gal Control Plasmid	H319 - Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Precautionary statements		
Prevention	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solution 3 pCMV β-Gal Control Plasmid	P280 - Wear eye or face protection. Not applicable. Not applicable. Not applicable.
Response	: MBS Transfection Kit Solution 1	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
Storage	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solution 3 pCMV β-Gal Control Plasmid	Not applicable. Not applicable. Not applicable. Not applicable.
Disposal	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solution 3 pCMV β-Gal Control Plasmid	Not applicable. Not applicable. Not applicable. Not applicable.
Supplemental label elements	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solution 3 pCMV β-Gal Control Plasmid	None known. None known. Avoid contact with skin and clothing. Wash thoroughly after handling. None known.
2.3 Other hazards		
Hazards not otherwise classified	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solution 3 pCMV β-Gal Control Plasmid	None known. None known. Prolonged or repeated contact may dry skin and cause irritation. None known.

Section 3. Composition/information on ingredients

Substance/mixture	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solution 3 pCMV β-Gal Control Plasmid	Mixture Mixture Mixture Mixture
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Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
MBS Transfection Kit Solution 1 Calcium chloride (CaCl ₂), dihydrate	≥25 - ≤50	10035-04-8
MBS Transfection Kit Soltuion 3 Ethanol	≤3	64-17-5

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 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	: MBS 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.
	MBS 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.
	MBS Transfection Kit Soltuion 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	: MBS 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.
	MBS 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.
	MBS Transfection Kit Soltuion 3	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

Section 4. First aid measures

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.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

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.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.


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.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.


Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.

Skin contact

- pCMV β -Gal Control Plasmid
- :  MBS Transfection Kit Solution 1
- MBS Transfection Kit Solution 2
- MBS Transfection Kit Soltuion 3
- pCMV β -Gal Control Plasmid

Ingestion

- :  MBS Transfection Kit Solution 1
- MBS Transfection Kit Solution 2
- MBS Transfection Kit Soltuion 3

Section 4. First aid measures

pCMV β -Gal Control Plasmid

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. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Soltuion 3 pCMV β -Gal Control Plasmid	Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Inhalation	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Soltuion 3 pCMV β -Gal Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Soltuion 3 pCMV β -Gal Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. Defatting to the skin. May cause skin dryness and irritation. No known significant effects or critical hazards.
Ingestion	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Soltuion 3 pCMV β -Gal Control Plasmid	No known significant effects or critical hazards. 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	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Soltuion 3 pCMV β -Gal Control Plasmid	Adverse symptoms may include the following: pain or irritation watering redness No specific data. No specific data. No specific data.
Inhalation	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Soltuion 3 pCMV β -Gal Control Plasmid	No specific data. No specific data. No specific data. No specific data.
Skin contact	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Soltuion 3 pCMV β -Gal Control Plasmid	No specific data. No specific data. Adverse symptoms may include the following: irritation dryness cracking No specific data.
Ingestion	: MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Soltuion 3 pCMV β -Gal Control Plasmid	No specific data. No specific data. No specific data. No specific data.

Section 4. First aid measures

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

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

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	MBS Transfection Kit Solution 1	Use an extinguishing agent suitable for the surrounding fire.
	MBS Transfection Kit Solution 2	Use an extinguishing agent suitable for the surrounding fire.
	MBS Transfection Kit Soltuion 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	MBS Transfection Kit Solution 1	None known.
	MBS Transfection Kit Solution 2	None known.
	MBS Transfection Kit Soltuion 3	None known.
	pCMV β -Gal Control Plasmid	None known.

5.2 Special hazards arising from the substance or mixture

Section 5. Fire-fighting measures

Specific hazards arising from the chemical	: MBS Transfection Kit Solution 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	MBS Transfection Kit Solution 2	In a fire or if heated, a pressure increase will occur and the container may burst.
	MBS 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	: MBS Transfection Kit Solution 1	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
	MBS Transfection Kit Solution 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides
	MBS Transfection Kit Solution 3	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides phosphorus oxides
	pCMV β -Gal Control Plasmid	No specific data.
5.3 Advice for firefighters		
Special protective actions for fire-fighters	: MBS 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.
	MBS 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.
	MBS Transfection Kit Solution 3	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.
	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	: MBS 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.
	MBS 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.
	MBS 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

Section 5. Fire-fighting measures

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

: MBS 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.

MBS 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.

MBS 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.

For emergency responders : MBS 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".

MBS 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".

MBS 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".

Section 6. Accidental release measures

6.2 Environmental precautions	: MBS 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).
	MBS 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).
	MBS 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).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	: MBS 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.
	MBS 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.
	MBS 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 inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures	: MBS 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.
	MBS Transfection Kit Solution 2	Put on appropriate personal protective equipment

Section 7. Handling and storage

	MBS Transfection Kit Solution 3	(see Section 8). Put on appropriate personal protective equipment (see Section 8).
	pCMV β -Gal Control Plasmid	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: MBS 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.
	MBS 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.
	MBS 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.
7.2 Conditions for safe storage, including any incompatibilities	: MBS 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.
	MBS 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.
	MBS 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

Section 7. Handling and storage

pCMV β -Gal Control Plasmid

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. 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

: MBS Transfection Kit Solution 1	Industrial applications, Professional applications.
: MBS Transfection Kit Solution 2	Industrial applications, Professional applications.
: MBS Transfection Kit Soltuion 3	Industrial applications, Professional applications.
: pCMV β -Gal Control Plasmid	Industrial applications, Professional applications.

Industrial sector specific solutions

: MBS Transfection Kit Solution 1	Not available.
: MBS Transfection Kit Solution 2	Not available.
: MBS Transfection Kit Soltuion 3	Not available.
: pCMV β -Gal Control Plasmid	Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
MBS Transfection Kit Solution 1 Calcium chloride (CaCl ₂), dihydrate	None.
MBS Transfection Kit Soltuion 3 Ethanol	ACGIH TLV (United States, 1/2023). STEL: 1000 ppm 15 minutes. OSHA PEL 1989 (United States, 3/1989). TWA: 1000 ppm 8 hours. TWA: 1900 mg/m ³ 8 hours. NIOSH REL (United States, 10/2020). TWA: 1000 ppm 10 hours. TWA: 1900 mg/m ³ 10 hours. OSHA PEL (United States, 5/2018). TWA: 1000 ppm 8 hours. TWA: 1900 mg/m ³ 8 hours. CAL OSHA PEL (United States, 5/2018). TWA: 1900 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours.

Biological exposure indices

No exposure indices known.

Section 8. Exposure controls/personal protection

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: 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 and safety characteristics

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

Appearance

- | | | |
|-----------------------|-----------------------------------|----------------|
| Physical state | MBS Transfection Kit Solution 1 | Liquid. |
| | MBS Transfection Kit Solution 2 | Liquid. |
| | MBS Transfection Kit Soltuion 3 | Liquid. |
| | pCMV β -Gal Control Plasmid | Liquid. |
| Color | MBS Transfection Kit Solution 1 | Not available. |
| | MBS Transfection Kit Solution 2 | Not available. |
| | MBS Transfection Kit Soltuion 3 | Not available. |
| | pCMV β -Gal Control Plasmid | Not available. |
| Odor | MBS Transfection Kit Solution 1 | Not available. |
| | MBS Transfection Kit Solution 2 | Not available. |
| | MBS Transfection Kit Soltuion 3 | Not available. |
| | pCMV β -Gal Control Plasmid | Not available. |
| Odor threshold | MBS Transfection Kit Solution 1 | Not available. |
| | MBS Transfection Kit Solution 2 | Not available. |
| | MBS Transfection Kit Soltuion 3 | Not available. |
| | pCMV β -Gal Control Plasmid | Not available. |

Section 9. Physical and chemical properties and safety characteristics

pH	MBS Transfection Kit Solution 1	Not available.
	MBS Transfection Kit Solution 2	6.95
	MBS Transfection Kit Soltuion 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.
Melting point/freezing point	MBS Transfection Kit Solution 1	Not available.
	MBS Transfection Kit Solution 2	0°C (32°F)
	MBS Transfection Kit Soltuion 3	Not available.
	pCMV β -Gal Control Plasmid	0°C (32°F)
Boiling point, initial boiling point, and boiling range	MBS Transfection Kit Solution 1	Not available.
	MBS Transfection Kit Solution 2	100°C (212°F)
	MBS Transfection Kit Soltuion 3	Not available.
	pCMV β -Gal Control Plasmid	100°C (212°F)

Flash point		Closed cup			Open cup		
	Ingredient name	°C	°F	Method	°C	°F	Method
	MBS Transfection Kit Soltuion 3						
	Ethanol	9.7	49.5	Abel-Pensky	-	-	-

Evaporation rate	MBS Transfection Kit Solution 1	Not available.
	MBS Transfection Kit Solution 2	Not available.
	MBS Transfection Kit Soltuion 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.

Flammability	MBS Transfection Kit Solution 1	Not applicable.
	MBS Transfection Kit Solution 2	Not applicable.
	MBS Transfection Kit Soltuion 3	Not applicable.
	pCMV β -Gal Control Plasmid	Not applicable.

Lower and upper explosion limit/flammability limit	MBS Transfection Kit Solution 1	Not available.
	MBS Transfection Kit Solution 2	Not available.
	MBS Transfection Kit Soltuion 3	Not available.
	pCMV β -Gal Control Plasmid	Not available.

Vapor pressure		Vapor Pressure at 20°C			Vapor pressure at 50°C		
	Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
	MBS Transfection Kit Solution 1						
	water	17.5	2.3	-	92.258	12.3	-
	MBS Transfection Kit Solution 2						
	water	17.5	2.3	-	92.258	12.3	-
	MBS Transfection Kit Soltuion 3						
	Ethanol	42.94865	5.7	-	-	-	-
	pCMV β-Gal Control Plasmid						
	water	17.5	2.3	-	92.258	12.3	-

Section 9. Physical and chemical properties and safety characteristics

Relative vapor density : MBS Transfection Kit Solution 1 Not available.
MBS Transfection Kit Solution 2 Not available.
MBS Transfection Kit Solution 3 Not available.
pCMV β -Gal Control Plasmid Not available.

Relative density : MBS Transfection Kit Solution 1 Not available.
MBS Transfection Kit Solution 2 Not available.
MBS Transfection Kit Solution 3 Not available.
pCMV β -Gal Control Plasmid Not available.

Solubility(ies)	Media	Result
	MBS Transfection Kit Solution 1 water	Soluble
	MBS Transfection Kit Solution 2 water	Soluble
	MBS Transfection Kit Solution 3 water	Soluble
	pCMV β -Gal Control Plasmid water	Soluble

Partition coefficient: n-octanol/water : MBS Transfection Kit Solution 1 Not applicable.
MBS Transfection Kit Solution 2 Not applicable.
MBS Transfection Kit Solution 3 Not applicable.
pCMV β -Gal Control Plasmid Not applicable.

Auto-ignition temperature	Ingredient name	°C	°F	Method
	MBS Transfection Kit Solution 3			
	Ethanol	455	851	DIN 51794

Decomposition temperature : MBS Transfection Kit Solution 1 Not available.
MBS Transfection Kit Solution 2 Not available.
MBS Transfection Kit Solution 3 Not available.
pCMV β -Gal Control Plasmid Not available.

Viscosity : MBS Transfection Kit Solution 1 Not available.
MBS Transfection Kit Solution 2 Not available.
MBS Transfection Kit Solution 3 Not available.
pCMV β -Gal Control Plasmid Not available.

Particle characteristics

Median particle size : MBS Transfection Kit Solution 1 Not applicable.
MBS Transfection Kit Solution 2 Not applicable.
MBS Transfection Kit Solution 3 Not applicable.
pCMV β -Gal Control Plasmid Not applicable.

Section 10. Stability and reactivity

10.1 Reactivity : MBS Transfection Kit Solution 1 No specific test data related to reactivity available for this product or its ingredients.
MBS Transfection Kit Solution 2 No specific test data related to reactivity available for this product or its ingredients.
MBS 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.

10.2 Chemical stability : MBS Transfection Kit Solution 1 The product is stable.
MBS Transfection Kit Solution 2 The product is stable.
MBS Transfection Kit Solution 3 The product is stable.
pCMV β -Gal Control Plasmid The product is stable.

Section 10. Stability and reactivity

10.3 Possibility of hazardous reactions	: MBS Transfection Kit Solution 1	Under normal conditions of storage and use, hazardous reactions will not occur.
	MBS Transfection Kit Solution 2	Under normal conditions of storage and use, hazardous reactions will not occur.
	MBS Transfection Kit Soltuion 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.
10.4 Conditions to avoid	: MBS Transfection Kit Solution 1	No specific data.
	MBS Transfection Kit Solution 2	No specific data.
	MBS Transfection Kit Soltuion 3	No specific data.
	pCMV β -Gal Control Plasmid	No specific data.
10.5 Incompatible materials	: MBS Transfection Kit Solution 1	May react or be incompatible with oxidizing materials.
	MBS Transfection Kit Solution 2	May react or be incompatible with oxidizing materials.
	MBS Transfection Kit Soltuion 3	May react or be incompatible with oxidizing materials.
	pCMV β -Gal Control Plasmid	May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	: MBS Transfection Kit Solution 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	MBS Transfection Kit Solution 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	MBS Transfection Kit Soltuion 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

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
MBS Transfection Kit Soltuion 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
MBS Transfection Kit Soltuion 3 Ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	100 uL	-

Sensitization

Section 11. Toxicological information

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
MBS Transfection Kit Solutiuon 3 Ethanol	-	1	-

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure	: MBS Transfection Kit Solution 1	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	MBS Transfection Kit Solution 2	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	MBS Transfection Kit Solutiuon 3	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	pCMV β -Gal Control Plasmid	Not available.
Potential acute health effects	Eye contact	Causes serious eye irritation. MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solutiuon 3 pCMV β -Gal Control Plasmid No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
	Inhalation	No known significant effects or critical hazards. MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solutiuon 3 pCMV β -Gal Control Plasmid No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
	Skin contact	No known significant effects or critical hazards. MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solutiuon 3 Defatting to the skin. May cause skin dryness and irritation. pCMV β -Gal Control Plasmid No known significant effects or critical hazards.
	Ingestion	No known significant effects or critical hazards. MBS Transfection Kit Solution 1 MBS Transfection Kit Solution 2 MBS Transfection Kit Solutiuon 3 pCMV β -Gal Control Plasmid No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

Eye contact	: MBS Transfection Kit Solution 1	Adverse symptoms may include the following: pain or irritation watering redness
	MBS Transfection Kit Solution 2	No specific data.
	MBS Transfection Kit Soltuion 3	No specific data.
	pCMV β -Gal Control Plasmid	No specific data.
Inhalation	: MBS Transfection Kit Solution 1	No specific data.
	MBS Transfection Kit Solution 2	No specific data.
	MBS Transfection Kit Soltuion 3	No specific data.
	pCMV β -Gal Control Plasmid	No specific data.
Skin contact	: MBS Transfection Kit Solution 1	No specific data.
	MBS Transfection Kit Solution 2	No specific data.
	MBS Transfection Kit Soltuion 3	Adverse symptoms may include the following: irritation dryness cracking
	pCMV β -Gal Control Plasmid	No specific data.
Ingestion	: MBS Transfection Kit Solution 1	No specific data.
	MBS Transfection Kit Solution 2	No specific data.
	MBS Transfection Kit Soltuion 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	: MBS Transfection Kit Solution 1	No known significant effects or critical hazards.
	MBS Transfection Kit Solution 2	No known significant effects or critical hazards.
Carcinogenicity	MBS Transfection Kit Soltuion 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.
	: MBS Transfection Kit Solution 1	No known significant effects or critical hazards.
	MBS Transfection Kit Solution 2	No known significant effects or critical hazards.
Mutagenicity	MBS Transfection Kit Soltuion 3	No known significant effects or critical hazards.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
	: MBS Transfection Kit Solution 1	No known significant effects or critical hazards.
	MBS Transfection Kit Solution 2	No known significant effects or critical hazards.
Reproductive toxicity	MBS Transfection Kit Soltuion 3	No known significant effects or critical hazards.
	pCMV β -Gal Control Plasmid	No known significant effects or critical hazards.
	: MBS Transfection Kit Solution 1	No known significant effects or critical hazards.
	MBS Transfection Kit Solution 2	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
MBS Transfection Kit Solution 2 MBS Transfection Kit Solution 2	187500.0	N/A	N/A	N/A	N/A
MBS Transfection Kit Soltuion 3 Ethanol	7000	N/A	N/A	124.7	N/A

Other information : **MBS Transfection Kit Solution 2** Adverse symptoms may include the following: May cause skin sensitization.

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
MBS 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
MBS Transfection Kit Soltuion 3 Ethanol	Acute EC50 3306 mg/l Marine water	Algae - <i>Ulva pertusa</i>	96 hours
	Acute EC50 1074 mg/l Fresh water	Crustaceans - <i>Cypris subglobosa</i>	48 hours
	Acute EC50 2 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 11000000 µg/l Marine water	Fish - <i>Alburnus alburnus</i>	96 hours
	Chronic NOEC 4.995 mg/l Marine water	Algae - <i>Ulva pertusa</i>	96 hours
	Chronic NOEC 100 ul/L Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	21 days

12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
MBS Transfection Kit Soltuion 3 Ethanol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
MBS Transfection Kit Soltuion 3 Ethanol	-0.35	0.5	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 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.

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 IMO instruments : 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

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](#)

Section 15. Regulatory information

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : MBS Transfection Kit Solution 1 EYE IRRITATION - Category 2A
 MBS Transfection Kit Solution 2 Not applicable.
 MBS Transfection Kit Soltuion 3 HNOC - Defatting irritant
 pCMV β-Gal Control Plasmid Not applicable.

Composition/information on ingredients

Name	%	Classification
MBS Transfection Kit Solution 1 Calcium chloride (CaCl ₂), dihydrate	≥25 - ≤50	EYE IRRITATION - Category 2A
MBS Transfection Kit Soltuion 3 Ethanol	≤3	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A HNOC - Defatting irritant

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : The following components are listed: ETHYL ALCOHOL

Pennsylvania : None of the components are listed.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

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.

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

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : Not determined.

Section 15. Regulatory information

Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
MBS Transfection Kit Solution 1 EYE IRRITATION - Category 2A	Calculation method

History

Date of issue/Date of revision	: 03/28/2024
Date of previous issue	: 03/30/2021
Version	: 8
Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals 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

📌 Indicates information that has changed from previously issued version.

Notice to reader

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