


# SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878

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

### 1.1 Product identifier

|                               |  |  |
|-------------------------------|--|--|
| Product name                  | <b>Lysis buffer type 9; part of 'PlasmidPrep Mini Spin Kit, 250 purifications'</b> |  |
| Catalogue Number              | 28-9042-70   |  |
| Component Number              | 9601D  |  |
| Product description           | Not available.   |  |
| Product type                  | Liquid.  |  |
| Other means of identification | Not available.   |  |

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

| Identified uses                                  |
|--|
| Analytical chemistry.                            |
| Laboratory chemicals                             |
| Scientific research and development              |
| <input checked="" type="checkbox"/> Consumer use |

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

|  |   |  |
|--|---|--|
| <b>Supplier</b>  | Cytiva<br>Amersham Place<br>Little Chalfont<br>Buckinghamshire<br>HP7 9NA United Kingdom<br>+44 1494 508000 | <b>Hours of operation</b><br>08.30 - 17.00 |
| <b>Person who prepared the SDS :</b> sds_author@cytiva.com |   |  |

|               |  |  |
|---------------|--|--|
| <b>Europe</b> | Cytiva Germany/Europe<br>Munzinger Str. 5<br>79111 Freiburg<br>Germany<br>t: +49 (0)761 4543 0 | <b>1.4 Emergency telephone number</b><br>+49 (0)761 4543 0 |
|---------------|--|--|

### National advisory body/Poison Centre

|               |   |
|---------------|---|
| <b>Europe</b> | <a href="https://syntecshop.com/wp-content/uploads/Emergency-Phone-numbers-EU.pdf">https://syntecshop.com/wp-content/uploads/Emergency-Phone-numbers-EU.pdf</a> |
|---------------|---|

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Product definition Mixture

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

Acute Tox. 4, H302  
Skin Irrit. 2, H315  
Eye Irrit. 2, H319

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

**Ingredients of unknown toxicity** 48.4 percent of the mixture consists of component(s) of unknown acute dermal toxicity  
48.4 percent of the mixture consists of component(s) of unknown acute inhalation toxicity

**Ingredients of unknown ecotoxicity**

Contains 42% of components with unknown hazards to the aquatic environment

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

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

2.2 Label elements

Hazard pictograms



**Signal word**

Warning

**Hazard statements**

Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.

Precautionary statements

**General**

Not applicable.

**Prevention**

Wear protective gloves. Wear eye or face protection. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

**Response**

Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

**Storage**

Not applicable.

**Disposal**

Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements**

Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

Not applicable.

Special packaging requirements

**Containers to be fitted with child-resistant fastenings**

Not applicable.

**Tactile warning of danger**

Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification**

Causes severe digestive tract burns.

SECTION 3: Composition/information on ingredients

3.2 Mixtures Mixture

| Product/ingredient name | Identifiers  | %  | Classification<br>Regulation (EC) No. 1272/2008 [CLP]  | Type    |
|-------------------------|--|----|--|---------|
| guanidinium chloride    | EC: 200-002-3<br>CAS: 50-01-1<br>Index: 607-148-00-0                                 | 42 | Acute Tox. 4, H302<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319  | [1]     |
| Acetic acid.            | REACH #:<br>01-2119475328-30<br>EC: 200-580-7<br>CAS: 64-19-7<br>Index: 607-002-00-6 | 18 | Flam. Liq. 3, H226<br>Acute Tox. 4, H312<br>Acute Tox. 4, H332<br>Skin Corr. 1A, H314<br><br>ATE [Oral] = 475 mg/kg<br>ATE [Dermal] = 1060 mg/kg<br>ATE [Inhalation (vapours)] = 11 mg/l<br>Skin Corr. 1A, H314: C ≥ 90%<br>Skin Corr. 1B, H314: 25% ≤ C < 90%<br>Skin Irrit. 2, H315: 10% ≤ C < 25%<br><br>See Section 16 for the full text of the H statements declared above. | [1] [2] |

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, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a physical, health or environmental hazard
- [2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

|                            |  |
|----------------------------|--|
| Eye contact                | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.  |
| Inhalation                 | 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. 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. |
| Skin contact               | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.   |
| Ingestion                  | 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 necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.                                  |
| Protection of first-aiders | 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.   |

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

|              |  |
|--------------|--|
| Eye contact  | Adverse symptoms may include the following:<br>pain or irritation<br>watering<br>redness |
| Inhalation   | No specific data.  |
| Skin contact | Adverse symptoms may include the following:<br>irritation<br>redness                     |
| Ingestion    | Adverse symptoms may include the following:<br>stomach pains                             |

4.3 Indication of any immediate medical attention and special treatment needed

|                     |   |
|---------------------|---|
| Notes to physician  | 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. |
| Specific treatments | No specific treatment.  |

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media      Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media      None known.

5.2 Special hazards arising from the substance or mixture

|                                       |  |
|---------------------------------------|--|
| Hazards from the substance or mixture | In a fire or if heated, a pressure increase will occur and the container may burst.  |
| Hazardous combustion products         | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>nitrogen oxides<br>halogenated compounds<br>metal oxide/oxides |



5.3 Advice for firefighters

|  |   |
|--|---|
| Special precautions for fire-fighters          | 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 | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

|                               |   |
|-------------------------------|---|
| For non-emergency personnel   | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| For emergency responders      | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".   |
| 6.2 Environmental precautions | Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).   |

6.3 Methods and material for containment and cleaning up

|                                 |   |
|---------------------------------|---|
| Small spill                     | 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.   |
| Large spill                     | Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. |
| 6.4 Reference to other sections | See Section 1 for emergency contact information.<br>See Section 8 for information on appropriate personal protective equipment.<br>See Section 13 for additional waste treatment information.   |

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

|  |  |
|--|--|
| Protective measures                    | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| Advice on general occupational hygiene | 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

|  |   |
|--|---|
|  | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |
|--|---|

7.3 Specific end use(s)

|                                      |  |
|--------------------------------------|--|
| Recommendations                      | Analytical chemistry. Laboratory chemicals. Scientific research and development. |
| Industrial sector specific solutions | Not available.   |

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

| Product/ingredient name | Exposure limit values   |
|-------------------------|---|
| Acetic acid.            | EU OEL (Europe, 1/2022)<br>STEL 15 minutes: 20 ppm.<br>STEL 15 minutes: 50 mg/m³. |

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

| Product/ingredient name | Result  |
|-------------------------|---|
| guanidinium chloride    | <b>DNEL - General population - Long term - Oral</b><br>0.5 mg/kg bw/day<br><u>Effects:</u> Systemic   |
|                         | <b>DNEL - General population - Long term - Dermal</b><br>0.5 mg/kg bw/day<br><u>Effects:</u> Systemic |
|                         | <b>DNEL - General population - Long term - Inhalation</b><br>0.87 mg/m³<br><u>Effects:</u> Systemic   |
|                         | <b>DNEL - Workers - Long term - Dermal</b><br>1 mg/kg bw/day<br><u>Effects:</u> Systemic              |
|                         | <b>DNEL - Workers - Long term - Inhalation</b><br>3.5 mg/m³<br><u>Effects:</u> Systemic               |
|                         | <b>DNEL - Workers - Short term - Inhalation</b><br>10.5 mg/m³<br><u>Effects:</u> Systemic             |
|                         | <b>DNEL - General population - Short term - Inhalation</b><br>25 mg/m³<br><u>Effects:</u> Local       |
|                         | <b>DNEL - General population - Long term - Inhalation</b><br>25 mg/m³<br><u>Effects:</u> Local        |
|                         | <b>DNEL - Workers - Short term - Inhalation</b><br>25 mg/m³<br><u>Effects:</u> Local                  |
|                         | <b>DNEL - Workers - Long term - Inhalation</b><br>25 mg/m³<br><u>Effects:</u> Local                   |
| Acetic acid.            |   |

PNECs

Not available.

8.2 Exposure controls

|                                  |  |
|----------------------------------|--|
| Appropriate engineering controls | Good general ventilation should be sufficient to control worker exposure to airborne contaminants.   |
| Individual protection measures   |  |
| Hygiene measures                 | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.  |
| Eye/face protection              | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.   |
| Skin protection                  |  |
| Hand protection                  | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |

|  |  |
|--|--|
| <b>Body protection</b>                 | 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.  |
| <b>Other skin protection</b>           | 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.  |
| <b>Respiratory protection</b>          | 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.   |
| <b>Environmental exposure controls</b> | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |

## SECTION 9: Physical and chemical properties

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

### 9.1 Information on basic physical and chemical properties

|  |  |      |                          |  |                        |
|--|--|------|--------------------------|--|------------------------|
| <b>Appearance</b>  |  |      |                          |  |                        |
| Physical state   | Liquid.                                |      |                          |  |                        |
| Colour   | Colourless.                            |      |                          |  |                        |
| Odour  | Odourless.                             |      |                          |  |                        |
| Odour threshold  | Not available.                         |      |                          |  |                        |
| Melting point/freezing point                             | Not available.                         |      |                          |  |                        |
| Boiling point or initial boiling point and boiling range | Not available.                         |      |                          |  |                        |
| Flammability   | Not available.                         |      |                          |  |                        |
| Lower and upper explosion limit                          | Not available.                         |      |                          |  |                        |
| Flash point  | [Product does not sustain combustion.] |      |                          |  |                        |
|  |  |      | <b><u>Closed cup</u></b> |  | <b><u>Open cup</u></b> |
| Ingredient name  | °C                                     |      | Method                   | °C                                     | Method                 |
| acetic acid  | 39                                     |      |                          |  |                        |
| Auto-ignition temperature                                | Not available.                         |      |                          |  |                        |
| Ingredient name  |  | °C   |                          | Method                                 |                        |
| potassium acetate  |  | >410 |                          | EU A.16                                |                        |
| acetic acid  |  | 463  |                          |  |                        |
| Decomposition temperature                                | Not available.                         |      |                          |  |                        |
| pH   | 4.2                                    |      |                          |  |                        |
| Viscosity  | Not available.                         |      |                          |  |                        |
| Solubility   |  |      |                          |  |                        |
| Media  | Result                                 |      |                          |  |                        |
| cold water   | Easily soluble                         |      |                          |  |                        |
| hot water  | Easily soluble                         |      |                          |  |                        |
| Solubility in water                                      | Not available.                         |      |                          |  |                        |
| Partition coefficient: n-octanol/ water                  | Not applicable.                        |      |                          |  |                        |
| Vapour pressure  | Not available.                         |      |                          |  |                        |
|  | <b><u>Vapour Pressure at 20 °C</u></b> |      |                          | <b><u>Vapour pressure at 50 °C</u></b> |                        |
| Ingredient name  | mm Hg                                  | kPa  | Method                   | mm Hg                                  | kPa                    |
| water  | 17.5                                   | 2.3  |                          |  |                        |
| acetic acid  | 15.59383                               | 2.1  |                          |  |                        |
| potassium acetate  | 0                                      | 0    |                          |  |                        |
| Relative density   | Not available.                         |      |                          |  |                        |
| Relative vapour density                                  | Not available.                         |      |                          |  |                        |
| <b><u>Particle characteristics</u></b>                   |  |      |                          |  |                        |
| Median particle size                                     | Not applicable.                        |      |                          |  |                        |

### 9.2 Other information

#### 9.2.1 Information with regard to physical hazard classes

**Burning time** Not applicable.



|                                    |                 |
|------------------------------------|-----------------|
| Burning rate                       | Not applicable. |
| Explosive properties               | Not available.  |
| Oxidising properties               | Not available.  |
| 9.2.2 Other safety characteristics |                 |
| Evaporation rate                   | Not available.  |
| Not applicable.                    |                 |

SECTION 10: Stability and reactivity

|   |  |
|---|--|
| 10.1 Reactivity                         | No specific test data related to reactivity available for this product or its ingredients.           |
| 10.2 Chemical stability                 | The product is stable.   |
| 10.3 Possibility of hazardous reactions | Under normal conditions of storage and use, hazardous reactions will not occur.                      |
| 10.4 Conditions to avoid                | No specific data.  |
| 10.5 Incompatible materials             | No specific data.  |
| 10.6 Hazardous decomposition products   | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

SECTION 11: Toxicological information

11.1 Information on toxicological effects

| Product/ingredient name | Result  |
|-------------------------|---|
| guanidinium chloride    | <b>Rat - Oral - LD50</b><br>475 mg/kg<br><u>Toxic effects:</u> Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Excitement Gastrointestinal - Hypermotility, diarrhea |
| Acetic acid.            | <b>Rat - Oral - LD50</b><br>3310 mg/kg<br><br><b>Rabbit - Dermal - LD50</b><br>1060 mg/kg<br><br><b>Rat - Inhalation - LC50 Vapour</b><br>11000 mg/m³ [4 hours]   |

Conclusion/Summary [Product] Not available.

Acute toxicity estimates

| Product/ingredient name                            | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|--|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| Solution III - 9601D (Lysis buffer type 9) - GROUP | 1131.0       | 3040.4         | N/A                      | 31.6                        | N/A                                 |
| guanidinium chloride                               | 475          | N/A            | N/A                      | N/A                         | N/A                                 |
| Acetic acid.                                       | 3310         | 1060           | N/A                      | 11                          | N/A                                 |

Skin corrosion/irritation

Not available.

Conclusion/Summary [Product] Not available.

Serious eye damage/eye irritation

Not available.

Conclusion/Summary [Product] Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] Not available.

Respiratory or skin sensitization

Not available.

Skin

**Conclusion/Summary [Product]** Not available.

#### **Respiratory**

**Conclusion/Summary [Product]** Not available.

#### **Germ cell mutagenicity**

Not available.

**Conclusion/Summary [Product]** Not available.

#### **Carcinogenicity**

Not available.

**Conclusion/Summary [Product]** Not available.

#### **Reproductive toxicity**

Not available.

**Conclusion/Summary [Product]** Not available.

#### **Specific target organ toxicity (single exposure)**

Not available.

#### **Specific target organ toxicity (repeated exposure)**

Not available.

#### **Aspiration hazard**

Not available.

**Information on likely routes of exposure** Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

#### **Potential acute health effects**

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | No known significant effects or critical hazards.                                     |
| <b>Ingestion</b>    | Severely corrosive to the digestive tract. Causes severe burns. Harmful if swallowed. |
| <b>Skin contact</b> | Causes skin irritation.   |
| <b>Eye contact</b>  | Causes serious eye irritation.  |

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

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | No specific data.  |
| <b>Ingestion</b>    | Adverse symptoms may include the following:<br>stomach pains                             |
| <b>Skin contact</b> | Adverse symptoms may include the following:<br>irritation<br>redness                     |
| <b>Eye contact</b>  | Adverse symptoms may include the following:<br>pain or irritation<br>watering<br>redness |

#### **Delayed and immediate effects as well as 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**

Not available.

**Conclusion/Summary [Product]** Not available.

|                        |   |
|------------------------|---|
| <b>General</b>         | No known significant effects or critical hazards. |
| <b>Carcinogenicity</b> | No known significant effects or critical hazards. |



|                       |   |
|-----------------------|---|
| Mutagenicity          | No known significant effects or critical hazards. |
| Reproductive toxicity | No known significant effects or critical hazards. |

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

**Conclusion/Summary [Product]** The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

| Product/ingredient name             | Result   |
|-------------------------------------|--|
| Acetic acid.                        | <b>Acute - LC50 - Marine water</b><br>Crustaceans - Brine shrimp - <i>Artemia salina</i><br>32 mg/l [48 hours]<br><u>Effect:</u> Mortality<br><br><b>Acute - LC50 - Fresh water</b><br>Fish - Bluegill - <i>Lepomis macrochirus</i><br>75 ppm [96 hours]<br><u>Effect:</u> Mortality |
| <b>Conclusion/Summary [Product]</b> | Not available.   |

12.2 Persistence and degradability

Not available.

**Conclusion/Summary [Product]** Not available.

| Product/ingredient name | Aquatic half-life | Photolysis      | Biodegradability |
|-------------------------|-------------------|-----------------|------------------|
| guanidinium chloride    | -                 | -               | Not readily      |
| Acetic acid.            | -                 | >60%; 28 day(s) | Readily          |

12.3 Bioaccumulative potential

| Product/ingredient name | LogP <sub>ow</sub> | BCF  | Potential |
|-------------------------|--------------------|------|-----------|
| guanidinium chloride    | -1.7               | -    | Low       |
| Acetic acid.            | -0.17              | 3.16 | Low       |

12.4 Mobility in soil

Soil/water partition coefficient

| Product/ingredient name | logK <sub>oc</sub> | K <sub>oc</sub> |
|-------------------------|--------------------|-----------------|
| guanidinium chloride    | 0.56               | 3.63133         |
| Acetic acid.            | 0.0031             | 1.00727         |

Results of PMT and vPvM assessment

| Product/ingredient name | PMT | P   | M   | T  | vPvM | vP  | vM  |
|-------------------------|-----|-----|-----|----|------|-----|-----|
| guanidinium chloride    | No  | N/A | Yes | No | N/A  | N/A | Yes |
| Acetic acid.            | No  | N/A | Yes | No | N/A  | N/A | Yes |

**Mobility** Not available.

**Conclusion/Summary** The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1907/2006 [REACH]

| Product/ingredient name | PBT | P   | B   | T  | vPvB | vP  | vB  |
|-------------------------|-----|-----|-----|----|------|-----|-----|
| guanidinium chloride    | No  | N/A | N/A | No | N/A  | N/A | N/A |
| Acetic acid.            | No  | N/A | No  | No | No   | N/A | No  |

Regulation (EC) No. 1272/2008 [CLP]

| Product/ingredient name | PBT | P   | B   | T  | vPvB | vP  | vB  |
|-------------------------|-----|-----|-----|----|------|-----|-----|
| guanidinium chloride    | No  | N/A | N/A | No | N/A  | N/A | N/A |
| Acetic acid.            | No  | N/A | No  | No | No   | N/A | No  |

**Conclusion/Summary** The product does not meet the criteria to be considered as a PBT or vPvB.

**Regulation (EC) No. 1272/2008 [CLP]**

12.6 Endocrine disrupting properties

**Conclusion/Summary [Product]** The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

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





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

Packaging

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

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

SECTION 14: Transport information

|                                 | ADR/RID  | ADN  | IMDG  | IATA   |
|---------------------------------|--|--|---|--|
| 14.1 UN number                  | UN2790   | UN2790   | UN2790  | UN2790   |
| 14.2 UN proper shipping name    | Acetic acid solution more than 10% but less than 50% acid, by weight (acetic acid)               | Acetic acid solution more than 10% but less than 50% acid, by weight (acetic acid)               | Acetic acid solution more than 10% but less than 50% acid, by weight (acetic acid)                | Acetic acid solution more than 10% but less than 50% acid, by weight (acetic acid)                 |
| 14.3 Transport hazard class(es) | 8 <div></div> | 8 <div></div> | 8 <div></div> | 8 <div></div> |
| 14.4 Packing group              | III  | III  | III   | III  |
| 14.5 Environmental hazards      | No.  | No.  | No.   | No.  |
| Additional information          | -  | -  | -   | -  |

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

**14.7 Transport in bulk according to IMO instruments** Not available.

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

**Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.



**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

| Product/ingredient name   | %               | Designation [Usage] |
|---|-----------------|---------------------|
| Lysis buffer type 9; part of 'PlasmidPrep Mini Spin Kit, 250 purifications' | ≥90             | 3                   |
| Labelling   | Not applicable. |                     |

**Other EU regulations**

|  |                 |
|--|-----------------|
| Industrial emissions (integrated pollution prevention and control) - Air   | Not listed      |
| Industrial emissions (integrated pollution prevention and control) - Water | Not listed      |
| Explosive precursors   | Not applicable. |

**Ozone depleting substances (EU 2024/590)**

Not listed.

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

Not listed.

**Persistent Organic Pollutants**

Not listed.

**Seveso Directive**

This product is not controlled under the Seveso Directive.

**International regulations**

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

Not listed.

**Montreal Protocol**

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**

|                                 |   |
|---------------------------------|---|
| United States                   | All components are active or exempted.  |
| Canada inventory                | All components are listed or exempted.  |
| China                           | All components are listed or exempted.  |
| Japan                           | Japan inventory (CSCL): All components are listed or exempted.<br>Japan inventory (ISHL): Not determined. |
| 15.2 Chemical safety assessment | This product contains substances for which Chemical Safety Assessments are still required.                |

SECTION 16: Other information

 Indicates information that has changed from previously issued version.

|                            |   |
|----------------------------|---|
| Abbreviations and acronyms | ATE = Acute Toxicity Estimate<br>CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]<br>DMEL = Derived Minimal Effect Level<br>DNEL = Derived No Effect Level<br>EUH statement = CLP-specific Hazard statement<br>N/A = Not available<br>PBT = Persistent, Bioaccumulative and Toxic<br>PNEC = Predicted No Effect Concentration<br>RRN = REACH Registration Number<br>vPvB = Very Persistent and Very Bioaccumulative |
|----------------------------|---|

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

| Classification  | Justification  |
|---|--|
| Acute Tox. 4, H302<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319 | Calculation method<br>Calculation method<br>Calculation method |

|                                       |      |  |
|---------------------------------------|------|--|
| Full text of abbreviated H statements | H226 | Flammable liquid and vapour.             |
|                                       | H302 | Harmful if swallowed.                    |
|                                       | H312 | Harmful in contact with skin.            |
|                                       | H314 | Causes severe skin burns and eye damage. |
|                                       | H315 | Causes skin irritation.                  |
|                                       | H319 | Causes serious eye irritation.           |
|                                       | H332 | Harmful if inhaled.                      |

|   |               |  |
|---|---------------|--|
| Full text of classifications [CLP/ GHS] | Acute Tox. 4  | ACUTE TOXICITY - Category 4                    |
|   | Eye Irrit. 2  | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 |
|   | Flam. Liq. 3  | FLAMMABLE LIQUIDS - Category 3                 |
|   | Skin Corr. 1A | SKIN CORROSION/IRRITATION - Category 1A        |
|   | Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2         |

|                                 |                  |
|---------------------------------|------------------|
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Notice to reader

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