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

1.1 Product identifier

Product name: SureGuide gRNA Control Kit - 20 Reactions, Part Number 5190-7718
Part No. (Kit): 5190-7718
Part No. Control DNA Target 50 ng/ul: 5190-7536
Control gRNA 1uM: 5190-7539

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

| Identified uses  |  
|-----------------|-------------------|
| Control DNA Target 50 ng/ul | 0.02 ml (x2) |
| Control gRNA 1uM | 0.01 ml |

1.3 Details of the supplier of the safety data sheet

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

e-mail address of person responsible for this SDS: pdl-msds_author@agilent.com

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Product definition</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control DNA Target 50 ng/ul</td>
<td>Mixture</td>
</tr>
<tr>
<td>Control gRNA 1uM</td>
<td>Mixture</td>
</tr>
</tbody>
</table>

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Not classified.

<table>
<thead>
<tr>
<th>Ingredients of unknown toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control DNA Target 50 ng/ul</td>
</tr>
<tr>
<td>Control gRNA 1uM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredients of unknown ecotoxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control DNA Target 50 ng/ul</td>
</tr>
<tr>
<td>Control gRNA 1uM</td>
</tr>
</tbody>
</table>

Classification according to Directive 1999/45/EC [DPD]

Control DNA Target 50 ng/ul: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Control gRNA 1uM: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

| Classification  |  
|-----------------|-------------------|
| Control DNA Target 50 ng/ul | Not classified. |
| Control gRNA 1uM | Not classified. |

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## SECTION 2: Hazards identification

<table>
<thead>
<tr>
<th>Physical/chemical hazards</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Human health hazards</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental hazards</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

See Section 16 for the full text of the R phrases or H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Control DNA Target 50 ng/ul</th>
<th>No signal word.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>No signal word.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazard statements</th>
<th>Control DNA Target 50 ng/ul</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

### Precautionary statements

<table>
<thead>
<tr>
<th>Prevention</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disposal</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous ingredients</th>
<th>No hazardous ingredient</th>
<th>Not applicable.</th>
</tr>
</thead>
</table>

### Supplemental label elements

<table>
<thead>
<tr>
<th>Supplemental label elements</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Special packaging requirements</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

### 2.3 Other hazards

<table>
<thead>
<tr>
<th>Other hazards which do not result in classification</th>
<th>Control DNA Target 50 ng/ul</th>
<th>None known.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control gRNA 1uM</td>
<td>None known.</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 01/10/2015
SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Control gRNA 1uM</th>
</tr>
</thead>
</table>

No hazardous ingredient

There are no 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 or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

<table>
<thead>
<tr>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] Substance classified with a health or environmental hazard</td>
</tr>
<tr>
<td>[2] Substance with a workplace exposure limit</td>
</tr>
<tr>
<td>[5] Substance of equivalent concern</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

- Control DNA Target 50 ng/ul: 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.
- Control gRNA 1uM: 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

- Control DNA Target 50 ng/ul: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Control gRNA 1uM: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact

- Control DNA Target 50 ng/ul: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Control gRNA 1uM: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion

- Control DNA Target 50 ng/ul: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Control gRNA 1uM: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders

- Control DNA Target 50 ng/ul: No action shall be taken involving any personal risk or without suitable training.
- Control gRNA 1uM: No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact

- Control DNA Target 50 ng/ul: No known significant effects or critical hazards.
- Control gRNA 1uM: No known significant effects or critical hazards.

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SECTION 4: First aid measures

Inhalation:
Control DNA Target 50 ng/ul
Control gRNA 1uM

No known significant effects or critical hazards.

Skin contact:
Control DNA Target 50 ng/ul
Control gRNA 1uM

No known significant effects or critical hazards.

Ingestion:
Control DNA Target 50 ng/ul
Control gRNA 1uM

No known significant effects or critical hazards.

Over-exposure signs/symptoms:

Eye contact:
Control DNA Target 50 ng/ul
Control gRNA 1uM

No specific data.

Inhalation:
Control DNA Target 50 ng/ul
Control gRNA 1uM

No specific data.

Skin contact:
Control DNA Target 50 ng/ul
Control gRNA 1uM

No specific data.

Ingestion:
Control DNA Target 50 ng/ul
Control gRNA 1uM

No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician:
Control DNA Target 50 ng/ul
Control gRNA 1uM

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments:
Control DNA Target 50 ng/ul
Control gRNA 1uM

No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:
Control DNA Target 50 ng/ul
Control gRNA 1uM

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media:
Control DNA Target 50 ng/ul
Control gRNA 1uM

None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products:
Control DNA Target 50 ng/ul
Control gRNA 1uM

No specific data.

5.3 Advice for firefighters

Special precautions for fire-fighters:
Control DNA Target 50 ng/ul
Control gRNA 1uM

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.
SECTION 5: Firefighting measures

Special protective equipment for fire-fighters

Control DNA Target 50 ng/ul

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.

Control gRNA 1uM

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

Control DNA Target 50 ng/ul

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 spill material. Put on appropriate personal protective equipment.

Control gRNA 1uM

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 spill material. Put on appropriate personal protective equipment.

For emergency responders

Control DNA Target 50 ng/ul

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".

Control gRNA 1uM

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

Control DNA Target 50 ng/ul

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).

Control gRNA 1uM

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

Methods for cleaning up

Control DNA Target 50 ng/ul

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.

Control gRNA 1uM

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.

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.
## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

<table>
<thead>
<tr>
<th>Protective measures</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Control gRNA 1uM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advice on general occupational hygiene</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
</tbody>
</table>

| Control DNA Target 50 ng/ul | 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. |
| Control gRNA 1uM | 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

| Control DNA Target 50 ng/ul | 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. |
| Control gRNA 1uM | 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. |

### 7.3 Specific end use(s)

| Control DNA Target 50 ng/ul | Industrial applications, Professional applications. |
| Control gRNA 1uM | Industrial applications, Professional applications. |

| Control DNA Target 50 ng/ul | Not applicable. |
| Control gRNA 1uM | Not applicable. |

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for...
SECTION 8: Exposure controls/personal protection

methods for the determination of hazardous substances will also be required.

DNELs/DMELs
No DNELs available.

PNECs
No PNECs available.

8.2 Exposure controls

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

Individual protection measures

Hygiene measures
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

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
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state
Control DNA Target 50 ng/ul Liquid.
Control gRNA 1 µM Liquid.

Colour
Control DNA Target 50 ng/ul Not available.
Control gRNA 1 µM Not available.

Odour
Control DNA Target 50 ng/ul Not available.
Control gRNA 1 µM Not available.

Odour threshold
Control DNA Target 50 ng/ul Not available.
Control gRNA 1 µM Not available.
### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Control DNA Target 50 ng/ul</th>
<th>Control gRNA 1uM</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Control DNA Target 50 ng/ul</td>
<td>0°C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Control gRNA 1uM</td>
<td>100°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

9.2 Other information

No additional information.
**SECTION 10: Stability and reactivity**

10.1 Reactivity

- **Control DNA Target 50 ng/ul**
  - Under normal conditions of storage and use, hazardous decomposition products should not be produced.

- **Control gRNA 1uM**
  - Under normal conditions of storage and use, hazardous decomposition products should not be produced.

10.2 Chemical stability

- **Control DNA Target 50 ng/ul**
  - The product is stable.

- **Control gRNA 1uM**
  - The product is stable.

10.3 Possibility of hazardous reactions

- **Control DNA Target 50 ng/ul**
  - Under normal conditions of storage and use, hazardous reactions will not occur.

- **Control gRNA 1uM**
  - Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

- **Control DNA Target 50 ng/ul**
  - No specific data.

- **Control gRNA 1uM**
  - No specific data.

10.5 Incompatible materials

- **Control DNA Target 50 ng/ul**
  - May react or be incompatible with oxidising materials.

- **Control gRNA 1uM**
  - May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products

- **Control DNA Target 50 ng/ul**
  - Under normal conditions of storage and use, hazardous decomposition products should not be produced.

- **Control gRNA 1uM**
  - 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**

- **Acute toxicity estimates**
  - Not available.

**Irritation/Corrosion**

- **Conclusion/Summary**
  - Not available.

**Sensitiser**

- **Conclusion/Summary**
  - Not available.

**Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity**

- **Not available.**

11.2 Information on the likely routes of exposure

- **Control DNA Target 50 ng/ul**
  - Information on routes of exposure not available.

- **Control gRNA 1uM**
  - Information on routes of exposure not available.

**Potential acute health effects**

- **Inhalation**
  - No known significant effects or critical hazards.

- **Control DNA Target 50 ng/ul**
  - No known significant effects or critical hazards.

- **Control gRNA 1uM**
  - No known significant effects or critical hazards.
## SECTION 11: Toxicological information

### Ingestion
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No known significant effects or critical hazards.

### Skin contact
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No known significant effects or critical hazards.

### Eye contact
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No known significant effects or critical hazards.

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

#### Inhalation
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No specific data.

#### Ingestion
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No specific data.

#### Skin contact
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No specific data.

#### Eye contact
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

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
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No known significant effects or critical hazards.

#### Carcinogenicity
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No known significant effects or critical hazards.

#### Mutagenicity
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No known significant effects or critical hazards.

#### Teratogenicity
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No known significant effects or critical hazards.

#### Developmental effects
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No known significant effects or critical hazards.

#### Fertility effects
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

No known significant effects or critical hazards.

### Toxicokinetics

#### Absorption
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

Not available.

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SECTION 11: Toxicological information

**Distribution**
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

**Metabolism**
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

**Elimination**
- Control DNA Target 50 ng/ul
- Control gRNA 1uM

**Other information**
- Not available.

SECTION 12: Ecological information

12.1 Toxicity
**Conclusion/Summary**
- Not available.

12.2 Persistence and degradability
**Conclusion/Summary**
- Not available.

12.3 Bioaccumulative potential
- Not available.

12.4 Mobility in soil
- Soil/water partition coefficient ($K_{oc}$)
- Mobility

12.5 Results of PBT and vPvB assessment
- **PBT**: Not applicable.
- **vPvB**: Not applicable.

12.6 Other adverse effects
- No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
**Product**
- Methods of disposal:
  - The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.
  - **Hazardous waste**:
    - Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

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

Date of issue/Date of revision: 01/10/2015
SECTION 14: Transport information

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

14.6 Special precautions for user

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

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not available.

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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

: Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : Not determined.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Japan : All components are listed or exempted.
Malaysia : Not determined.
New Zealand : Not determined.

Date of issue/Date of revision : 01/10/2015
### SECTION 15: Regulatory information

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<th>Information</th>
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<tr>
<td>Republic of Korea</td>
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<tr>
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**15.2 Chemical Safety Assessment**

This product contains substances for which Chemical Safety Assessments might still be required.

### SECTION 16: Other information

- Indicates information that has changed from previously issued version.

#### Abbreviations and acronyms

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

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

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<th>Justification</th>
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</tr>
<tr>
<td>Control gRNA 1uM</td>
<td>Not applicable.</td>
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</table>

#### Full text of abbreviated R phrases

- Control DNA Target 50 ng/ul  
- Control gRNA 1uM

#### Full text of classifications [DSD/DPD]

- Control DNA Target 50 ng/ul  
- Control gRNA 1uM

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**Notice to reader**

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