1. Identification

<table>
<thead>
<tr>
<th>Product identifier</th>
<th>crRNA - O</th>
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<tbody>
<tr>
<td>Product name</td>
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<tr>
<td>Product number</td>
<td>10006972</td>
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</tbody>
</table>

**Recommended use of the chemical and restrictions on use**

*No specific uses advised against are identified.*

**Details of the supplier of the safety data sheet**

**Supplier**
Integrated DNA Technologies  
1710 Commercial Park  
Coralville, Iowa, 52241  
41 Science Park Road  
#01-28 The Gemini  
Singapore Science Park II  
Singapore 117610  
Republic of Singapore

Interleuvenlaan 12A  
B-3001 Leuven  
Belgium

6828 Nancy Ridge Drive  
San Diego, California 92121  
USA
custcare@idtdna.com

**Manufacturer**
Integrated DNA Technologies  
1710 Commercial Park  
Coralville, Iowa, 52241  
41 Science Park Road  
#01-28 The Gemini  
Singapore Science Park II  
Singapore 117610  
Republic of Singapore

Interleuvenlaan 12A  
B-3001 Leuven  
Belgium

6828 Nancy Ridge Drive  
San Diego, California 92121  
USA
custcare@idtdna.com

**Emergency telephone number**

ChemTrec 800-424-9300
2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status

This Product is Not Hazardous under the OSHA Hazard Communication Standard.

Indeling (classification)

THIS PRODUCT IS CONSIDERED NON-HAZARDOUS. Per OSHA 29CFR1910.1200, Commonwealth of Australia [NOHSC: 1005, 1008(1999)], and the latest amendments to the European Union Directives (EC) No 1907/2006 and (EC) No 2015/830, this product does not require a Material Safety Data Sheet (MSDS) or Safety Data Sheet (SDS). This product does not contain more than 1% of a component classified as hazardous and does not contain more than 0.1% of a component classified as carcinogenic. This product is non-hazardous according to Regulation (EC) No 1272/2008. Despite the classification of certain products/components as non-hazardous, we strongly recommend using prudent laboratory practices: avoiding unnecessary contact and use of personal protective equipment, which may include gloves, eye protection, and lab coats, during the use of any laboratory reagent. IDT shall not be held liable for any damages resulting from handling or from contact with the above product.

Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

3. Composition/information on ingredients

Substances

Product name crRNA - O

4. First-aid measures

Description of first aid measures

General information

If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.

Inhalation

Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.

Ingestion

Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.

Skin Contact

Rinse with water.

Eye contact

Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.

Protection of first aiders

First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General information

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

No specific symptoms known.

Ingestion

No specific symptoms known.

Skin contact

No specific symptoms known.

Eye contact

No specific symptoms known. May be slightly irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor

Treat symptomatically.

Specific treatments

No special treatment required.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
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Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture:

Specific hazards: None known.

Hazardous combustion products: Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

Advice for firefighters:

Protective actions during firefighting: Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Personal precautions: Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material.

Environmental precautions:

Environmental precautions: Avoid discharge into drains or watercourses or onto the ground.

Methods and material for containment and cleaning up:

Methods for cleaning up: Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

Reference to other sections: For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling:

Usage precautions: Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs.

Advice on general occupational hygiene: Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities:

Storage precautions: Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

Storage class: Unspecified storage.

Specific end uses(s):

Specific end use(s): The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

Exposure controls:
Protective equipment

Appropriate engineering controls
Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection
Wear eye protection.

Hand protection
Wear protective gloves.

Other skin and body protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures
Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

Respiratory protection
Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.

Environmental exposure controls
Keep container tightly sealed when not in use.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance
Solid.

Color
Translucent or opaque flake, film or powder like substance

Odor
Odorless.

Odor threshold
Not available.

pH
Not available.

Melting point
Not available.

Initial boiling point and range
Not available.

Flash point
No specific test data are available.

Evaporation rate
Not available.

Evaporation factor
Not available.

Flammability (solid, gas)
Not available.

Upper/lower flammability or explosive limits
Not available.

Other flammability
Not available.

Vapor pressure
Not available.

Vapor density
Not available.

Relative density
Not available.

Bulk density
Not available.

Solubility(ies)
Not available.

Partition coefficient
Not available.

Auto-ignition temperature
Not available.

Decomposition Temperature
Not available.

Viscosity
Not available.
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Explosive properties Not available.
Explosive under the influence of a flame Not considered to be explosive.
Oxidizing properties Not available.

10. Stability and reactivity

Reactivity See the other subsections of this section for further details.
Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions No potentially hazardous reactions known.
Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.
Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.
Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

11. Toxicological information

Information on toxicological effects
Toxicological effects Not regarded as a health hazard under current legislation.
Acute toxicity - oral Notes (oral LD₅₀) Based on available data the classification criteria are not met.
Acute toxicity - dermal Notes (dermal LD₅₀) Based on available data the classification criteria are not met.
Acute toxicity - inhalation Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.
Skin corrosion/irritation Animal data Based on available data the classification criteria are not met.
Serious eye damage/irritation Based on available data the classification criteria are not met.
Respiratory sensitization Based on available data the classification criteria are not met.
Skin sensitization Based on available data the classification criteria are not met.
Germ cell mutagenicity Based on available data the classification criteria are not met.
Genotoxicity - in vitro Based on available data the classification criteria are not met.
Carcinogenicity Based on available data the classification criteria are not met.
IARC carcinogenicity None of the ingredients are listed or exempt.
Reproductive toxicity Based on available data the classification criteria are not met.
Reproductive toxicity - fertility Based on available data the classification criteria are not met.
Reproductive toxicity - development Based on available data the classification criteria are not met.
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Specific target organ toxicity - single exposure
STOT - single exposure  Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure  Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
No specific symptoms known.

Ingestion
No specific symptoms known.

Skin Contact
No specific symptoms known.

Eye contact
No specific symptoms known.

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target Organs
No specific target organs known.

12. Ecological information

Ecotoxicity
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Toxicity
Based on available data the classification criteria are not met.

Persistence and degradability
The degradability of the product is not known.

Bioaccumulative potential
No data available on bioaccumulation.

Partition coefficient
Not available.

Mobility in soil
No data available.

Other adverse effects
None known.

13. Disposal considerations

Waste treatment methods
The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods
Do not empty into drains.

14. Transport information

General
The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

UN Number
UN No. (International)  Not applicable.
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UN No. (DOT) Not applicable.
UN No. (IATA) Not applicable.
UN proper shipping name
Proper shipping name (International) Not applicable.
Proper shipping name (DOT) Not applicable.
Proper Shipping Name (IATA) Not applicable.
Transport hazard class(es)
Transport Labels (International) No transport warning sign required.
IATA Hazard Class Not applicable.
DOT transport labels
No transport warning sign required.
Packing group
Packing group (International) Not applicable.
DOT packing group Not applicable.
IATA Packing Group Not applicable.
Environmental hazards
Environmentally Hazardous Substance No.
Special precautions for user
Not applicable.
DOT reportable quantity Not applicable.
DOT TIH Zone Not applicable.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US Federal Regulations
SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
None of the ingredients are listed or exempt.
CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
None of the ingredients are listed or exempt.
SARA Extremely Hazardous Substances EPCRA Reportable Quantities
None of the ingredients are listed or exempt.
SARA 313 Emission Reporting
None of the ingredients are listed or exempt.
CAA Accidental Release Prevention
None of the ingredients are listed or exempt.
FDA - Essential Chemical
None of the ingredients are listed or exempt.
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FDA - Precursor Chemical
None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories
None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals
None of the ingredients are listed or exempt.

US State Regulations
California Proposition 65 Carcinogens and Reproductive Toxins
None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-I)
None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-II)
None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances
None of the ingredients are listed or exempt.

Massachusetts "Right To Know" List
None of the ingredients are listed or exempt.

Rhode Island "Right To Know" List
None of the ingredients are listed or exempt.

Minnesota "Right To Know" List
None of the ingredients are listed or exempt.

New Jersey "Right To Know" List
None of the ingredients are listed or exempt.

Pennsylvania "Right To Know" List
None of the ingredients are listed or exempt.

Inventories
US - TSCA
None of the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
None of the ingredients are listed or exempt.

16. Other information

Abbreviations and acronyms used in the safety data sheet

TDG: The transport of dangerous goods act

IATA: International air transport association.
ICAO: Technical instructions for the safe transport of dangerous goods by air.
IMDG: International maritime dangerous goods.
CAS: Chemical abstracts service.
ATE: Acute toxicity estimate.
LC₅₀: Lethal concentration to 50 % of a test population.
LD₅₀: Lethal dose to 50% of a test population (median lethal dose).
EC₅₀: 50% of maximal effective concentration.
PBT: Persistent, bioaccumulative and toxic substance.
vPvB: Very persistent and very bioaccumulative.
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Training advice  Only trained personnel should use this material.
Revision date  6/5/2020
Revision  1
SDS No.  4721

The information in this safety data sheet is, to the best of our knowledge, correct as of the date it was issued. We do not guarantee that this safety data sheet includes all the information necessary for your intended use. You (the user) are responsible for determining whether this material or product is suitable for your particular purpose.