SAFETY DATA SHEET

xGen™ Prism Ligation 1 Enzyme


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

1.1. Product identifier

Product name xGen™ Prism Ligation 1 Enzyme
Product number 10003048

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

Identified uses For research and development purposes only.
Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

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

1.4. Emergency telephone number

Emergency telephone ChemTrec 800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified
Health hazards Not Classified
Environmental hazards Not Classified

2.2. Label elements

Hazard statements NC Not Classified

2.3. Other hazards
xGen™ Prism Ligation 1 Enzyme

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS number: 56-81-5</th>
<th>EC number: 200-289-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>30-60%</td>
<td></td>
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</tbody>
</table>

Classification
Not Classified

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments
The exact percentage is withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

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

Inhalation
No specific recommendations. If throat irritation or coughing persists, proceed as follows. 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 any discomfort continues.

Ingestion
No specific recommendations. If throat irritation or coughing persists, proceed as follows. Rinse mouth. Get medical attention if any discomfort continues.

Skin contact
No specific recommendations. Rinse with water. Get medical attention if any discomfort continues.

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
Use protective equipment appropriate for surrounding materials.

4.2. 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. Spray/mists may cause respiratory tract irritation.

Ingestion
No specific symptoms known. May cause discomfort if swallowed.

Skin contact
No specific symptoms known. May cause discomfort.

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

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor
Treat symptomatically.

Specific treatments
No special treatment required.

SECTION 5: Firefighting measures

5.1. 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.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards
Containers can burst violently or explode when heated, due to excessive pressure build-up.

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

5.3. Advice for firefighters
xGen™ Prism Ligation 1 Enzyme

Protective actions during firefighting
Avoid breathing fire gases or vapours. 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 vapours and protect men stopping the leak.

Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Personal precautions
No specific recommendations. For personal protection, see Section 8.

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

6.3. Methods and material for containment and cleaning up
Methods for cleaning up
Reuse or recycle products wherever possible. Absorb spillage to prevent material damage. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of contents/container in accordance with national regulations.

6.4. Reference to other sections
Reference to other sections
For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. 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. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists.

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

7.2. Conditions for safe storage, including any incompatibilities
Storage precautions
Store away from incompatible materials (see Section 10). No specific recommendations.

Storage class
Unspecified storage.

7.3. Specific end use(s)
Specific end use(s)
The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters
Occupational exposure limits
Glycerol
Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ mist
WEL = Workplace Exposure Limit.

8.2. Exposure controls
Protective equipment

Appropriate engineering controls
No specific ventilation requirements.
**xGen™ Prism Ligation 1 Enzyme**

**Eye/face protection**
No specific eye protection required during normal use. Large Spillages: Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.

**Hand protection**
No specific hand protection recommended. Large Spillages: 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**
No specific recommendations. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.

**Environmental exposure controls**
Not regarded as dangerous for the environment.

### SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- **Appearance**: Liquid.
- **Colour**: Colourless.
- **Odour threshold**: Not available.
- **pH**: Not available.
- **Melting point**: Not available.
- **Initial boiling point and range**: Not available.
- **Flash point**: Not 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.
- **Vapour pressure**: Not available.
- **Vapour 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.
- **Explosive properties**: Not applicable.
- **Explosive under the influence of a flame**: Not available.
- **Oxidising properties**: Not available.

9.2. Other information
None.

### SECTION 10: Stability and reactivity

- **Stability**: Not applicable.
- **Reactivity**: Not available.
xGen™ Prism Ligation 1 Enzyme

10.1. Reactivity
Reactivity
See the other subsections of this section for further details.

10.2. Chemical stability
Stability
Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions
No potentially hazardous reactions known.

10.4. Conditions to avoid
Conditions to avoid
There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials
Materials to avoid
No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products
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 vapours.

SECTION 11: Toxicological information

11.1. 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 sensitisation
Based on available data the classification criteria are not met.

Skin sensitisation
Based on available data the classification criteria are not met.

Germ cell mutagenicity
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
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.

Specific target organ toxicity - single exposure
xGen™ Prism Ligation 1 Enzyme

STOT - single exposure
Not classified as a specific target organ toxicant after a single 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
No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
No specific symptoms known. Spray/mists may cause respiratory tract irritation.

Ingestion
No specific symptoms known. May cause discomfort if swallowed.

Skin contact
No specific symptoms known. May cause discomfort.

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

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target organs
No specific target organs known.

SECTION 12: Ecological information

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

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

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

12.3. Bioaccumulative potential
No data available on bioaccumulation.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects
None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way.

General information
Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of the local water authority.

Disposal methods

SECTION 14: Transport information

14.1. UN number
UN No. (IATA) Not Regulated

14.2. UN proper shipping name
xGen™ Prism Ligation 1 Enzyme

Proper Shipping Name (IATA) Not Regulated

14.3. Transport hazard class(es)
IATA Hazard Class Not Regulated

14.4. Packing group
IATA Packing Group Not Regulated

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009”].
EH40/2005 Workplace exposure limits.


15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

Inventories
EU - EINECS/ELINCS
None of the ingredients are listed or exempt.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LD₅₀: Lethal Dose 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.

Training advice
Only trained personnel should use this material.

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This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company’s knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user’s responsibility to satisfy himself as to the suitability of such information for his own particular use.