



**SAFETY DATA SHEET**  
**xGen® Hybridization Buffer Enhancer**

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

1.1. Product identifier

Product name	xGen® Hybridization Buffer Enhancer
CAS number	75-12-7
EU index number	616-052-00-8
EC number	200-842-0

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
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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
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**SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Carc. 2 - H351 Repr. 1B - H360 STOT RE 2 - H373
Environmental hazards	Not Classified

Indeling (classification)

2.2. Label elements

EC number	200-842-0
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## xGen® Hybridization Buffer Enhancer

### Hazard pictograms



### Signal word

Danger

### Hazard statements

H351 Suspected of causing cancer.  
H360 May damage fertility or the unborn child.  
H373 May cause damage to organs through prolonged or repeated exposure.

### Precautionary statements

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe vapour/ spray.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P308+P313 IF exposed or concerned: Get medical advice/ attention.  
P314 Get medical advice/ attention if you feel unwell.  
P405 Store locked up.  
P501 Dispose of contents/ container in accordance with national regulations.

### Contains

Formamide

### 2.3. Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Formamide	100%
CAS number: 75-12-7	EC number: 200-842-0
Classification Carc. 2 - H351 Repr. 1B - H360 STOT RE 2 - H373	

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

### Composition comments

All percentages displayed expressed as volume/volume.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues. 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.

### 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	Prolonged or repeated exposure may cause the following adverse effects: Suspected of causing cancer.

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Ingestion	Prolonged or repeated exposure may cause the following adverse effects: Suspected of causing cancer.
Skin contact	Prolonged or repeated exposure may cause the following adverse effects: Suspected of causing cancer.
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.
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## 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

Protective actions during firefighting	Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. 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. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
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	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.
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### 6.2. Environmental precautions

Environmental precautions	Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.
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### 6.3. 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. Small Spillages: Collect spillage. Large Spillages: Absorb spillage with non-combustible, absorbent material. The contaminated absorbent may pose the same hazard as the spilled material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.
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### 6.4. Reference to other sections

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.
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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

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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. Suspected of causing cancer. May damage the unborn child. Pregnant or breastfeeding women should not work with this product if there is any risk of exposure. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.
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). Store locked up. 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	Chemical 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

Long-term exposure limit (8-hour TWA): WEL 20 ppm 37 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 30 ppm 56 mg/m<sup>3</sup>

##### Formamide

Long-term exposure limit (8-hour TWA): WEL 20 ppm 37 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 30 ppm 56 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit.

#### 8.2. Exposure controls

##### Protective equipment



Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Ensure the ventilation system is regularly maintained and tested. Good general ventilation should be adequate to control worker exposure to airborne contaminants. Observe any occupational exposure limits for the product or ingredients.
Eye/face protection	Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.
Hand protection	Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of 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 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

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Environmental exposure controls    Keep container tightly sealed when not in use. 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	Liquid.
Colour	Colourless to pale yellow.
Odour	Ammonia.
Odour threshold	Not available.
pH	Not available.
Melting point	Not available.
Initial boiling point and range	Not available.
Flash point	175°C/347°F
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 considered to be explosive.
Explosive under the influence of a flame	Not available.
Oxidising properties	Not available.

#### 9.2. Other information

Other information	None.
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reactivity	See the other subsections of this section for further details.
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#### 10.2. Chemical stability

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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

Acute toxicity - oral	
Notes (oral LD <sub>50</sub> )	Based on available data the classification criteria are not met.
Acute toxicity - dermal	
Notes (dermal LD <sub>50</sub> )	Based on available data the classification criteria are not met.
Acute toxicity - inhalation	
Notes (inhalation LC <sub>50</sub> )	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	
Serious eye damage/irritation	Based on available data the classification criteria are not met.
Respiratory sensitisation	
Respiratory sensitisation	Based on available data the classification criteria are not met.
Skin sensitisation	
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	
Carcinogenicity	Suspected of causing cancer.
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	May damage the unborn child.
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.
Target organs	Blood
Aspiration hazard	

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Aspiration hazard	Based on available data the classification criteria are not met.
General information	Avoid contact during pregnancy/while nursing. May cause cancer after repeated exposure. Risk of cancer depends on duration and level of exposure. 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.
Toxicological information on ingredients.	

### Formamide

Acute toxicity - oral	
Notes (oral LD <sub>50</sub> )	Based on available data the classification criteria are not met.
Acute toxicity - dermal	
Notes (dermal LD <sub>50</sub> )	Based on available data the classification criteria are not met.
Acute toxicity - inhalation	
Notes (inhalation LC <sub>50</sub> )	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	
Serious eye damage/irritation	Based on available data the classification criteria are not met.
Respiratory sensitisation	
Respiratory sensitisation	Based on available data the classification criteria are not met.
Skin sensitisation	
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	
Carcinogenicity	Suspected of causing cancer.
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	May damage the unborn child.
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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.

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Target organs	Blood
Aspiration hazard	
Aspiration hazard	Based on available data the classification criteria are not met.
General information	Avoid contact during pregnancy/while nursing. May cause cancer after repeated exposure. Risk of cancer depends on duration and level of exposure. 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.

### 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	
Toxicity	Based on available data the classification criteria are not met.
12.2. Persistence and degradability	
Persistence and degradability	The degradability of the product is not known.
12.3. Bioaccumulative potential	
Bioaccumulative potential	No data available on bioaccumulation.
Partition coefficient	Not available.
12.4. Mobility in soil	
Mobility	No data available.
12.5. Results of PBT and vPvB assessment	
Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.
12.6. Other adverse effects	
Other adverse effects	None known.

### SECTION 13: Disposal considerations

13.1. Waste treatment methods	
General information	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. 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. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

### SECTION 14: Transport information



## xGen® Hybridization Buffer Enhancer

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).
14.1. UN number	
UN No. (IATA)	
14.2. UN proper shipping name	
Proper Shipping Name (IATA)	
14.3. Transport hazard class(es)	
IATA Hazard Class	
14.4. Packing group	
IATA Packing Group	
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.
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

#### 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. 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. LC <sub>50</sub> : Lethal Concentration to 50 % of a test population. LD <sub>50</sub> : Lethal Dose to 50% of a test population (Median Lethal Dose). EC <sub>50</sub> : 50% of maximal Effective Concentration. PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative.
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Classification abbreviations and acronyms	Carc. = Carcinogenicity Repr. = Reproductive toxicity
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## xGen® Hybridization Buffer Enhancer

Classification procedures according to Regulation (EC) 1272/2008	Carc. 2 - H351: Repr. 1B - H360D: : Expert judgement.
Training advice	Only trained personnel should use this material.
Revision comments	Contact legal for statement
Revision date	03/03/2020
Revision	5
SDS number	4715
Hazard statements in full	H351 Suspected of causing cancer. H360 May damage fertility or the unborn child. H373 May cause damage to organs through prolonged or repeated exposure.

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.