

# SAFETY DATA SHEET

Creation Date 14-Jul-2010

Revision Date 09-Nov-2018

Revision Number 10

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Description:** RNA Oligonucleotide  
**Cat No. :** Begins with- A-, C-, CN-, CP-, CAS11195-98, CAS12024-29 D-, E-, EQ-, EU-, F, G-, GU-, GC-, GP-, H-, IH-, IN-, IP-, J-, K-, L-, LQ-, LU-, M-, MQ-, MU-, N-, P-, PQ-, Q-, R- RU-, U-009\*, U-002\*, U-006\*, U-007\*, and U-0012\*  
**Synonyms** Ribonucleic acid oligonucleotide

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

**Recommended Use** For research use only  
**Uses advised against** No Information available

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

**Company** Dharmacon Inc  
Horizon Discovery  
2650 Crescent Drive Suite 100  
Lafayette, CO 80026  
Tel: 303-604-9499  
**E-mail address** [stephanie.stroh@horizondiscovery.com](mailto:stephanie.stroh@horizondiscovery.com)

### 1.4. Emergency telephone number

Chemtrec US: (800) 424-9300  
Chemtrec EU: (202) 483-7616

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

##### Physical hazards

Based on available data, the classification criteria are not met

##### Health hazards

Based on available data, the classification criteria are not met

##### Environmental hazards

Based on available data, the classification criteria are not met

#### Classification according to EU Directives 67/548/EEC or 1999/45/EC

**R-phrases(s)** None

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

### 2.2. Label elements

**Hazard Statements**

**Precautionary Statements**

10000000102429

**2.3. Other hazards**

No information available

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

**SECTION 4: FIRST AID MEASURES****4.1. Description of first aid measures**

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately if symptoms occur.
<b>Skin Contact</b>	Rinse with water. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Do not induce vomiting. Get medical attention immediately if symptoms occur.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
<b>Protection of First-aiders</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination

**4.2. Most important symptoms and effects, both acute and delayed**

No information available

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

**Notes to Physician** Treat symptomatically

**SECTION 5: FIREFIGHTING MEASURES****5.1. Extinguishing media****Suitable Extinguishing Media**

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire..

**Extinguishing media which must not be used for safety reasons**

No information available.

**5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous Combustion Products**

Thermal decomposition can lead to release of irritating gases and vapors.

**5.3. Advice for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency procedures**

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Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

**6.2. Environmental precautions**

Should not be released into the environment.

**6.3. Methods and material for containment and cleaning up**

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

**6.4. Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7: HANDLING AND STORAGE**

**7.1. Precautions for safe handling**

Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

**7.2. Conditions for safe storage, including any incompatibilities**

Keep container tightly closed. Keep in a dry place. Keep at °C.

**7.3. Specific end use(s)**

Use in laboratories

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

**Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

**Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

**Derived No Effect Level (DNEL)** No information available.

<u>Route of exposure</u>	<b>Acute effects (local)</b>	<b>Acute effects (systemic)</b>	<b>Chronic effects (local)</b>	<b>Chronic effects (systemic)</b>
Oral				
Dermal				
Inhalation				

**Predicted No Effect Concentration (PNEC)** No information available.

**8.2. Exposure controls**

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**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

**Personal protective equipment**

**Eye Protection**

Safety glasses with side-shields (European standard - EN 166)

**Hand Protection**

Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Disposable gloves	See manufacturers recommendations	-	EN 374	(minimum requirement)

**Skin and body protection**

Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove gloves with care avoiding skin contamination.

**Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators  
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

**Large scale/emergency use**

In case of insufficient ventilation wear suitable respiratory equipment

**Small scale/Laboratory use**

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

When RPE is used a face piece Fit Test should be conducted.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

**Environmental exposure controls**

No information available.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1. Information on basic physical and chemical properties**

**Appearance** No information available

**Physical State** Solid, Pellets.

**Odor** No information available

**Odor Threshold** No data available

**pH** No data available

**Melting Point/Range** No data available

**Softening Point** No data available

**Boiling Point/Range** Not applicable

**Flash Point** Not applicable

**Method** - No information available

**Evaporation Rate** No data available

**Flammability (solid,gas)** No information available

**Explosion Limits** No data available.

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Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	No data available	
Bulk Density	No data available	
Water Solubility	No information available	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Autoignition Temperature	No data available	
Decomposition temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

**9.2. Other information****SECTION 10: STABILITY AND REACTIVITY****10.1. Reactivity**

None known, based on information available.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions****Hazardous Polymerization  
Hazardous Reactions**Hazardous polymerization does not occur.  
No information available.**10.4. Conditions to avoid**

Incompatible products, Excess heat, Exposure to air or moisture over prolonged periods.

**10.5. Incompatible materials**

Alcohols.

**10.6. Hazardous decomposition products**

Thermal decomposition can lead to release of irritating gases and vapors.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects****Product Information** No acute toxicity information is available for this product**(a) acute toxicity;**

Oral	No data available
Dermal	No data available
Inhalation	No data available

**(b) skin corrosion/irritation;** No data available**(c) serious eye damage/irritation;** No data available**(d) respiratory or skin sensitization;**

Respiratory	No data available
Skin	No data available

(e) germ cell mutagenicity;	No data available
(f) carcinogenicity;	No data available  There are no known carcinogenic chemicals in this product
(g) reproductive toxicity;	No data available
(h) STOT-single exposure;	No data available
(i) STOT-repeated exposure;	No data available
Target Organs	None known.
(j) aspiration hazard;	No data available
Other Adverse Effects	The toxicological properties have not been fully investigated.
Symptoms / effects, both acute and delayed	No information available

## SECTION 12: ECOLOGICAL INFORMATION

<b>12.1. Toxicity</b>	
<b>Ecotoxicity effects</b>	Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.
<b>12.2. Persistence and degradability</b>	No information available
<b>12.3. Bioaccumulative potential</b>	No information available.
<b>12.4. Mobility in soil</b>	No information available.
<b>12.5. Results of PBT and vPvB assessment</b>	No data available for assessment
<b>12.6. Other adverse effects</b>	
<b>Endocrine Disruptor Information</b>	This product does not contain any known or suspected endocrine disruptors
<b>Persistent Organic Pollutant</b>	This product does not contain any known or suspected substance
<b>Ozone Depletion Potential</b>	This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

<b>13.1. Waste treatment methods</b>	
<b>Waste from Residues / Unused Products</b>	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
<b>Contaminated Packaging</b>	Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.
<b>European Waste Catalogue (EWC)</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific
<b>Other Information</b>	Waste codes should be assigned by the user based on the application for which the product was used

## SECTION 14: TRANSPORT INFORMATION

<b>IMDG/IMO</b>	Not regulated
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**14.1. UN number****14.2. UN proper shipping name****14.3. Transport hazard class(es)****14.4. Packing group****ADR** Not regulated**14.1. UN number****14.2. UN proper shipping name****14.3. Transport hazard class(es)****14.4. Packing group****IATA** Not regulated**14.1. UN number****14.2. UN proper shipping name****14.3. Transport hazard class(es)****14.4. Packing group****14.5. Environmental hazards** No hazards identified**14.6. Special precautions for user** No special precautions required**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable, packaged goods**SECTION 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories** X = listed**National Regulations**

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**15.2. Chemical safety assessment**

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

**SECTION 16: OTHER INFORMATION****Full text of R-phrases referred to under sections 2 and 3**

Not applicable

**Legend****CAS** - Chemical Abstracts Service**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**IECSC** - Chinese Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**ENCS** - Japanese Existing and New Chemical Substances**AICS** - Australian Inventory of Chemical Substances**NZIoC** - New Zealand Inventory of Chemicals

**RNA Oligonucleotide****WEL** - Workplace Exposure Limit**ACGIH** - American Conference of Governmental Industrial Hygienists**DNEL** - Derived No Effect Level**RPE** - Respiratory Protective Equipment**LC50** - Lethal Concentration 50%**NOEC** - No Observed Effect Concentration**PBT** - Persistent, Bioaccumulative, Toxic**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code**OECD** - Organisation for Economic Co-operation and Development**BCF** - Bioconcentration factor**TWA** - Time Weighted Average**IARC** - International Agency for Research on Cancer**PNEC** - Predicted No Effect Concentration**LD50** - Lethal Dose 50%**EC50** - Effective Concentration 50%**POW** - Partition coefficient Octanol:Water**vPvB** - very Persistent, very Bioaccumulative**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association**MARPOL** - International Convention for the Prevention of Pollution from Ships**ATE** - Acute Toxicity Estimate**VOC** - Volatile Organic Compounds**Key literature references and sources for data**

Suppliers safety data sheet,

Chemadvisor - LOLI,

Merck index,

RTECS

**Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

<b>Creation Date</b>	14-Jul-2010
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<b>Revision Summary</b>	Not applicable

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006****Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**