Material Safety Data Sheet

Material Name: Short Oligo Hybridization Solution **ID: C-384**

* * * Section 1 - Chemical Product and Company Identification * * *

Manufacturer Information

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Big Flats, NY 14814

Phone: (607) 974-0234

Emergency # 24 Hr CHEMTREC U.S. (800) 424-9300
24 Hr CHEMTREC International (703) 527-3887

* * * Section 2 - Hazards Identification * * *

Emergency Overview

This product is a clear, non-flammable liquid with no odor. This product may be irritating to the eyes, respiratory system and skin. May cause central nervous system effects. Component may be absorbed through the skin.

Potential Health Effects: Eyes

This product may cause irritation to the eyes.

Potential Health Effects: Skin

Contact with this product may cause irritation to the skin. A component of this product may be absorbed through the skin.

Potential Health Effects: Ingestion

May be harmful if swallowed. May cause nausea, and vomiting.

Potential Health Effects: Inhalation

Inhalation of vapors or mists of the product may be irritating to the respiratory system. Continued overexposure may produce symptoms of central nervous system depression including nausea, dizziness, headache, unconsciousness and coma.

HMIS Ratings: Health: 2* **Fire:** 1 **Physical Hazard:** 0 **Pers. Prot.:** gloves, goggles

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
7732-18-5	Water	50-60
Not Available	20X SSC	30-40
75-12-7	Formamide	10-20
9048-46-8	Albumin, bovine, fraction v	0.1-1
151-21-3	Sodium lauryl sulfate	0.1-1

Component Information/Information on Non-Hazardous Components

The product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

This product is considered a controlled product under the Canadian Controlled Product Regulations.

This is an experimental material for research and development purposes only. It contains components not known to be on the TSCA, DSL or NDSL Inventories and cannot be distributed by itself or as part of another product in commerce. Its use is to be by or under the supervision of a technically qualified person. The physical, chemical and toxicological properties of this substance have not been fully determined.

This product contains a component associated with toxic teratogenic and reproductive effects (See Section 11: Toxicological Information).

This product contains materials derived from biological origins.

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

In case of contact, immediately flush eyes with large amounts of water, continuing to flush for 15 minutes. After flushing eyes, call a physician.

First Aid: Skin

Wash area of contact thoroughly with soap and water. Seek medical attention if symptoms develop or persist. Launder contaminated clothing before reuse.

First Aid: Ingestion

Do not induce vomiting. Get immediate medical attention.

First Aid: Inhalation

If inhaled, remove person to fresh air. If symptoms develop or persist, get medical attention. If breathing has stopped give artificial respiration.

First Aid: Notes to Physician

Provide general supportive measures (warmth, rest).

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.
Non-flammable but may burn at elevated temperatures.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide, nitrogen oxides and other hydrocarbon fragments.

Extinguishing Media

Water fog, foam, dry chemical or carbon dioxide.

Fire Fighting Equipment/Instructions

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Cool fire-exposed containers with water.

NFPA Ratings: Health: 2 **Fire:** 1 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

* * * Section 6 - Accidental Release Measures * * *

Containment Procedures

Contain the discharged material. Do not allow to enter sewers or waterways.

Clean-Up Procedures

Clean-up personnel should wear suitable protective equipment. Collect spilled material with an inert absorbent such as sand or vermiculite. Place in properly labeled closed container. Flush area with water to remove trace residue.

Evacuation Procedures

Close off area. Keep unnecessary personnel away.

Special Procedures

Clean up and dispose of waste in accordance with all Federal, State and local regulations.

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Avoid contact with skin and eyes. Avoid inhalation of mists or vapors. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation.

Storage Procedures

Keep container tightly closed and in a cool, well-ventilated place away from light and incompatible materials.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Exposure Guidelines

A: General Product Information

Follow all applicable exposure limits.

B: Component Exposure Limits

Formamide (75-12-7)

ACGIH:	10 ppm TWA
	Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA (Vacated):	20 ppm TWA; 30 mg/m3 TWA
	30 ppm STEL; 45 mg/m3 STEL
NIOSH:	10 ppm TWA; 15 mg/m3 TWA
	Potential for dermal absorption
Alberta:	10 ppm TWA; 18 mg/m3 TWA
	Substance may be readily absorbed through intact skin
British Columbia:	10 ppm TWA
	Skin notation
Manitoba:	20 ppm TWA; 30 mg/m3 TWA
	30 ppm STEL; 45 mg/m3 STEL
New Brunswick:	10 ppm TWA; 18 mg/m3 TWA
	Skin - potential for cutaneous absorption
NW Territories:	20 ppm TWA; 37 mg/m3 TWA
	30 ppm STEL; 55 mg/m3 STEL
Nova Scotia:	10 ppm TWA
	Skin - potential significant contribution to overall exposure by the cutaneous route
Nunavut:	20 ppm TWA; 37 mg/m3 TWA
	30 ppm STEL; 55 mg/m3 STEL
Ontario:	10 ppm TWAEV; 15 mg/m3 TWAEV
	Absorption through skin, eyes, or mucous membranes
Quebec:	10 ppm TWAEV; 18 mg/m3 TWAEV
	Skin designation
Saskatchewan:	18 mg/m3 TWA; 10 ppm TWA
	27 mg/m3 STEL; 15 ppm STEL
Yukon:	20 ppm TWA; 30 mg/m3 TWA
	30 ppm STEL; 45 mg/m3 STEL

Engineering Controls

Use local exhaust ventilation to keep exposures to a minimum.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear safety glasses or goggles.

Personal Protective Equipment: Skin

Use impervious gloves when handling. Use of protective coveralls and long sleeves is recommended to prevent skin contact.

Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively prevent buildup of vapor/mist/dust/fume, appropriate NIOSH/MSHA respirator protection must be provided.

Personal Protective Equipment: General

Eye wash fountain and emergency showers are recommended. Use good hygiene practices when handling this material including changing and laundering work clothing after use.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Clear	**Odor:**	None
Physical State:	Liquid	**pH:**	Not determined
Vapor Pressure:	Not determined	**Vapor Density:**	Not determined
Boiling Point:	Not determined	**Solubility (H2O):**	Not determined
Density:	1 gm/cm3	**Auto Ignition:**	Not available
Flash Point:	154ºC (309ºF) Formamide	**Flash Point Method:**	Open cup
Lower Flammability Limit (LFL):	Not determined	**Upper Flammability Limit (UFL):**	Not determined
OSHA Flammability Classification:	Non-flammable		

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

Stable under normal conditions.

Chemical Stability: Conditions to Avoid

Keep away from heat, ignition sources and incompatible materials.

Incompatibility

Avoid contact with oxidizing agents, acids, bases, iodine, pyridine, and sulfur trioxide. Formamide can react with copper and brass.

Hazardous Decomposition

Thermal decomposition may produce carbon monoxide, carbon dioxide, nitrogen oxides and other toxic compounds.

Possibility of Hazardous Reactions

Will not occur.

* * * Section 11 - Toxicological Information * * *

Acute Dose Effects

A: General Product Information

No additional information.

This product contains materials derived from biological origin that may contain low levels of infectious agents, and should be handled in keeping with safe laboratory practices.

B: Component Analysis - LD50/LC50

Formamide (75-12-7)

Oral LD50 Rat: 5577 mg/kg

Sodium lauryl sulfate (151-21-3)

Inhalation LC50 Rat: >3900 mg/m3/1H; Oral LD50 Rat: 1288 mg/kg

Carcinogenicity

A: General Product Information

No information available for product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP

Teratogenicity

No information available for product.

Formamide has been reported to cause birth defects in experimental animals following oral and dermal administration.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

No information available for product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Sodium lauryl sulfate (151-21-3)

Test & Species		Conditions
96 Hr LC50 fathead minnow (fry)	10.2 mg/L	
96 Hr LC50 fathead minnow (juvenile)	17 mg/L	
96 Hr LC50 fathead minnow (adult)	22.5 mg/L	
96 Hr LC50 rainbow trout	4.6 mg/L	static
5 min EC50 Photobacterium phosphoreum	3.5 mg/L	
15 min EC50 Photobacterium phosphoreum	1.6 mg/L	
30 min EC50 Photobacterium phosphoreum	1.2 mg/L	
48 Hr EC50 water flea	6.2 mg/L	

* * * Section 13 - Disposal Considerations * * *

US EPA Waste Number & Descriptions

A: General Product Information

No additional information. You must test your waste using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Waste must be handled in accordance with all federal, state, provincial, and local regulations.
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

* * * Section 14 - Transportation Information * * *

US DOT Information

Shipping Name: Not regulated as a hazardous material.

TDG Information

Shipping Name: Not regulated as a dangerous good.

* * * Section 15 - Regulatory Information * * *

US Federal Regulations

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

B: Component Analysis

None of this product's components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations

A: General Product Information

Other state regulations may apply. Check individual state requirements.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Formamide	75-12-7	Yes	Yes	Yes	Yes	Yes	Yes

Canadian WHMIS Information

A: General Product Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by CPR.

All components of this product are listed on, or are automatically included as "substance occurring in nature" on, or are exempted from the requirements to be listed on, the Canadian Domestic Substances List (DSL).

WHMIS Classification:
Class D2A: Very Toxic Material
Class D2B: Toxic Material

B: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Formamide	75-12-7	0.1 % (English Item 782, French Item 919)

Additional Regulatory Information

A: General Product Information

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B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Water	7732-18-5	Yes	Yes	Yes
Formamide	75-12-7	Yes	Yes	Yes
Albumin, bovine, fraction v	9048-46-8	Yes	Yes	Yes
Sodium lauryl sulfate	151-21-3	Yes	Yes	Yes

* * * Section 16 - Other Information * * *

Other Information

Reasonable care has been taken in the preparation of this information, but Corning makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. Corning makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; CPR = Controlled Products Regulations; DOT = Department of Transportation; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; mg/m3 = milligrams per Cubic Meter; MSHA = Mine Safety and Health Administration; NA = Not Applicable or Not Available; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; SARA = Superfund Amendments and Reauthorization Act; TDG = Transport Dangerous Goods; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System.

Contact: Corporate Safety Management Services
Contact Phone: (607) 974-6926

End of Sheet C-384