



# Safety Data Sheet

Formamide Hybridization Buffer

SDS-10194

Rev. Number: 2 Rev. Date: Aug 26, 2020

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	Product Code
Formamide Hybridization Buffer	5910-0001 (50-86-12)
	5960-0024 (50-86-11)
	5960-0023 (50-86-10)
	5910-0025 (50-86-09)

### Hazardous Reagent

Formamide Hybridization Buffer

### Hazardous Reagent Product code

Catalog No. Listed above

**Recommended Use:** Reference Reagent

**Contact Manufacturer:** SeraCare Life Sciences  
910 Clopper Road  
Gaithersburg, MD 20878

**Phone #:** (508) 244-6400  
US Toll Free: (800) 676-1881

**Fax #:** (508) 634-3394

**Web:** [www.seracare.com](http://www.seracare.com)

**Email:** [customerservice@seracare.com](mailto:customerservice@seracare.com)

### Emergency Telephone Numbers:

AUSTRALIA – POISONS INFORMATION CENTER

Telephone: 13 11 26 - Hours: 24 hours

CANADIAN TRANSPORT EMERGENCY CENTER

Telephone: (1) 613 996 6666 - Hours: 24 hours/day,  
7 days/week

UK – THE NATIONAL FOCUS

Telephone: (44) 029 2041 6388 - Hours: 09:00-17:00 GMT

USA - NATIONAL RESPONSE CENTER

Telephone: (1) 800 424 8802 - Hours: 24 hours/day,  
7 days/week

### **CHEMTREC:**

CHEMTREC Customer Number: - CCN12505\*  
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident  
Call CHEMTREC Day or Night  
Within USA and Canada: 1-800-424-9300 CCN12505 or  
+1 703-527-3887 (collect calls accepted)

## 2. HAZARD IDENTIFICATION

**Hazard Type**

Health Hazard

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

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**GHS Classification**

Reproductive toxicity, Category 1B; H360D  
 Acute toxicity, Category 4, oral; H302  
 Acute toxicity, Category 3, dermal; H311  
 Skin irritation, Category 2; H315  
 Eye irritation, Category 2; H319  
 Specific Target Organ Toxicity (single exposure), Category 3; H335

**Hazard Statements:**

H360D: May damage the unborn child.  
 H302: Harmful if swallowed.  
 H311: Toxic in contact with skin.  
 H315: Causes skin irritation.  
 H319: Causes serious eye irritation.  
 H335: May cause respiratory irritation.  
 H351: Suspected of causing Cancer

**Precautionary Statements:**

P201: Obtain special instructions before use.  
 P308+P313: IF exposed or concerned: Get medical advice/attention.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
 P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P309+P310: IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

**Symbols and Indications of Danger:**

GHS08 Dgr: Danger

**Principle Route of Exposure:**

**Data for 100% Formamide:** The substance can be absorbed into the body by inhalation of its vapour, through the skin and by ingestion.

**Acute Effects: Eye**

**Data for 100% Formamide:** Redness.

**Acute Effects: Skin:**

**Data for 100% Formamide:** MAY BE ABSORBED! Redness.

**Acute Effects: Inhalation:**

**Data for 100% Formamide:** A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20°C.

**Inhalation Risk:**

**Data for 100% Formamide:** Drowsiness. Headache. Nausea. Unconsciousness

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**Short-Term Exposure**      **Data for 100% Formamide:** The substance is irritating to the eyes and the skin . The substance may cause effects on the central nervous system

**Long-Term Exposure**      **Data for 100% Formamide:** Animal tests show that this substance possibly causes toxic effects upon human reproduction.

**Ingestion:**                      **Data for 100% Formamide:** Abdominal pain. (See Inhalation).

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
Formamide Hybridization Buffer	Formamide	<50%	75-12-7
	Sodium Dodecyl Sulfate	<2%	151-21-3
<b>GHS Classification</b>	Reproductive toxicity, Category 1B; H360D Acute toxicity, Category 4, oral; H302 Acute toxicity, Category 3, dermal; H311 Skin irritation, Category 2; H315 Eye irritation, Category 2; H319 Specific Target Organ Toxicity (single exposure), Category 3; H335 Carcinogenic, Category 2 H351		

### 4. FIRST AID MEASURES

**General Advice:**                      Move out of dangerous Area

**Oral Exposure:**                      **Data for 100% Formamide:** Rinse mouth. Rest. Refer for medical attention.

**Inhalation Exposure:**              **Data for 100% Formamide:** Fresh air, rest. Artificial respiration may be needed. Refer for medical attention

**Skin Exposure:**                      **Data for 100% Formamide:** Remove contaminated clothes. Rinse skin with plenty of water or shower.

**Eye Exposure:**                      **Data for 100% Formamide:** First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then seek medical attention from a doctor

### 5. FIRE FIGHTING MEASURES

**Extinguishing media:**              **Data for 100% Formamide:** Powder, alcohol-resistant foam, water spray, carbon dioxide.

**Unusual Fire and Explosive Hazards:**      **Data for 100% Formamide:** Not Available

**Flash Point:**                              **Data for 100% Formamide:** Not Available

**Auto ignition Temperature:**      **Data for 100% Formamide:** Not Available

**Flammability Statement:**          **Data for 100% Formamide:** No open flames

**Specific hazards arising from the chemical:**      **Data for 100% Formamide:** Combustible. Gives off irritating or toxic fumes (or gases) in a fire

**Protective equipment and precautions for firefighters:**      **Data for 100% Formamide:**  
Wear self-contained breathing apparatus for firefighting if necessary

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**CHEMICAL DANGERS:**

**Data for 100% Formamide:** On combustion, forms toxic gases (nitrogen oxides). The substance decomposes on heating at 180°C producing ammonia, water, carbon monoxide and hydrogen cyanide. Reacts with oxidants. Attacks metals such as aluminium, iron, copper and natural rubber.

**PHYSICAL DANGERS:**

**Data for 100% Formamide:** Not Available

**6. ACCIDENTAL RELEASE MEASURES****Personal Precautions:**

Body protection:

Depending on the risk, wear a tight, long apron and boots or suitable chemical protection clothing. The protection clothing should be solvent resistant.

Respiratory protection:

In an emergency (e.g.: unintentional release of the substance) respiratory protection must be worn. Consider the maximum period for wear.

Respiratory protection: Gas filter A, Colour code brown.

Use insulating device for concentrations above the usage limits for filter devices, for oxygen concentrations below 17% volume, or in circumstances which are unclear.

Eye protection:

Sufficient eye protection should be worn. Wear glasses with side protection.

Hand protection:

Use protective gloves. The glove material must be sufficiently impermeable and resistant to the substance. Check the tightness before wear. Gloves should be well cleaned before being removed, then stored in a well ventilated location. Pay attention to skin care.

Skin protection cremes do not protect sufficiently against the substance. Textile or leather gloves are completely unsuitable.

The following materials are suitable for protective gloves (Permeation time  $\geq$  8 hours): Natural rubber/Natural latex - NR (0,5 mm) (use non-powdered and allergen free products)

Polychloroprene - CR (0,5 mm)

Nitrile rubber/Nitrile latex - NBR (0,35 mm) Butyl rubber - Butyl (0,5 mm)

Fluoro carbon rubber - FKM (0,4 mm) Polyvinyl chloride - PVC (0,5 mm)

The times listed are suggested by measurements taken at 22 °C and constant contact. Temperatures raised by warmed substances, body heat, etc. and a weakening of the effective layer thickness caused by expansion can lead to a significantly shorter breakthrough time. In case of doubt contact the gloves' manufacturer. A 1.5-times increase / decrease in the layer thickness doubles / halves the breakthrough time. This data only applies to the pure substance. Transferred to mixtures of substances, these figures should only be taken as an aid to orientation.

**Environmental Precautions:**

Low hazard to waters. Inform the responsible authorities when very large quantities get into water, drainage, sewer, or the ground.

**Method of Containment**

Evacuate area. Warn affected surroundings.

The hazardous area may only be entered once suitable protective measures are implemented. Only then can the hazardous situation be removed.

Wear respiratory protection, eye protection, hand protection and body protection (see chapter Personal Protection).

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Absorb any spilt liquid with an absorbent (e.g. diatomite, vermiculite, sand) and dispose of according to regulations.

Pump off larger quantities.

Afterwards ventilate area and wash spill site.

**Method of Clean-up**

Use protective equipment while cleaning if necessary.

Only conduct maintenance and other work on or in the vessel or closed spaces after obtaining written permission.

Only work with vessels and lines after they have been thoroughly rinsed.

**Other Information:**

Not Available

**SPILLAGE DISPOSAL**

**Data for 100% Formamide:** Collect leaking and spilled liquid in sealable steel (not copper) containers as far as possible. Wash away spilled liquid with plenty of water.

**7. HANDLING AND STORAGE****Handling:**

Wear appropriate PPE. Refer to section 8.

**Storage:**

Store at 2 – 8°C.

**Data for 100% Formamide:** Separated from oxidants . Dry

**8. EXPOSURE CONTROL****Respiratory Protection:**

**Data for 100% Formamide:** Ventilation

**Eye Protection:**

**Data for 100% Formamide:** Face shield.

**Skin Protection:**

**Data for 100% Formamide:** Protective clothing.

**Ingestion:**

**Data for 100% Formamide:** Do not eat, drink, or smoke during work. Wash hands before eating.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance:**

Clear with a Light Golden Color

**Physical State:**

Liquid

**Odor:**

Not available

**Odor Threshold:**

Not available

**pH:**

No data available

**Boiling Point:**

**Data for 100% Formamide:** 118°C

**Evaporation Rate:**

Not available

**Relative Vapor Density:**

**Data for 100% Formamide:** (air = 1): 1.6

**Vapor Pressure:**

**Data for 100% Formamide:** Pa at 20°C: about 2

**Relative Density:**

**Data for 100% Formamide:** (water= 1): 1.13

**Auto-Ignition Temperature:**

**Data for 100% Formamide:** >500°C

**Water Solubility:**

**Data for 100% Formamide:** very good

**Flammability:**

Not available

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<b>Flash Point:</b>	<b>Data for 100% Formamide:</b> 154°C o.c
<b>Viscosity:</b>	Not available
<b>Oxidizing Properties:</b>	Not available
<b>Explosive Properties:</b>	Not available
<b>Additional Parameters</b>	See Datasheet/Product Insert for other Product Information.

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal conditions
<b>Conditions to avoid:</b>	Heat, Flames and Sparks, Exposure to moisture
<b>Incompatibility Materials to Avoid:</b>	<p><b>Data for 100% Formamide:</b></p> <p>Collocated storage with the following substances is prohibited:</p> <ul style="list-style-type: none"> <li>- Pharmaceuticals, foods, and animal feeds including additives.</li> <li>- Infectious, radioactive und explosive substances.</li> <li>- Gases.</li> <li>- Other explosive substances of storage class 4.1A.</li> <li>- Strongly oxidizing substances of storage class 5.1A.</li> <li>- Ammonium nitrate and preparations containing ammonium nitrate.</li> <li>- Organic peroxides and self reactive substances</li> </ul>
<b>Hazardous Decomposition Products:</b>	<p><b>Data for 100% Formamide:</b></p> <p>Attention! Hazardous decomposition products may occur. Nitrous gases (nitric oxides)</p> <p>Hydrogen cyanide vapours</p>
<b>Hazardous Polymerization:</b>	Not Available
<b>Possibility of hazardous reactions:</b>	Not Available

## 11. TOXICOLOGY MEASURES

### Acute Toxicity

The toxicological risks are minor due to the low concentration of hazardous ingredients. The following toxicological information is for the hazardous ingredient in pure form.

	<b>Data for 100% Formamide:</b>
<b>LD50 Oral:</b>	LD50 oral rat Value: 5580 mg/kg Reference: Unknown
	<b>Data for 100% Formamide:</b>
<b>LD50 Dermal:</b>	LD50 dermal Species: Rabbit Value: 17000 mg/kg Reference: National Technical Information Service. Vol. OTS0528421,
<b>LC50 Inhalation:</b>	Not Available

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**Chronic Toxicity**

<b>Carcinogenicity:</b>	H351
<b>Irritation:</b>	H315: Causes skin irritation. H319: Causes serious eye irritation. H335: May cause respiratory irritation.
<b>Corrosivity:</b>	Not Available
<b>Sensitization:</b>	Not Available
<b>Neurological Effects:</b>	Not Available
<b>Mutagenic Effects:</b>	Not Available
<b>Reproductive Effects:</b>	<b>Data for 100% Formamide:</b> H360D: May damage the unborn child.
<b>Developmental Effects:</b>	Not Available
<b>Target Organ Effects:</b>	<b>Data for 100% Formamide:</b> The main intake pathways for formamide are via the skin and the respiratory tract.
<b>Other adverse effects:</b>	Not Available

**12. ECOLOGICAL MEASURES**

<b>Ecotoxicity:</b>	<b>Data for 100% Sodium Dodecyl Sulfate:</b> LC50 Fish (96 hours) Minimum: 0,59 mg/l Maximum: 38 mg/l Median: 7,97 mg/l Study number: 43 Reference for median: Fogels, A., and J.B. Sprague 1977. Comparative Short-Term Tolerance of Zebrafish, Flagfish, and Rainbow Trout to Five Poisons Including Potential Reference Toxicants. Water Res. 11(9):811-817 LC50 Crustaceans (48 hours) Minimum: 1,26 mg/l Maximum: 162 mg/l Median: 12,1 mg/l Study number: 133 Reference for median: Lewis, P.A., and W.B. Horning II 1991. Differences in Acute Toxicity Test Results of Three Reference Toxicants on Daphnia at Two Temperatures. Environ.Toxicol.Chem. 10:1351 - 1357
<b>Persistence/Degradability:</b>	<b>Data for 100% Dodecyl Sulfate, Sodium Salt:</b> Fish (Fundulus heteroclitus) Static 96hr LC50 1.2 mg/L (Slightly harmful in the aquatic environment or are otherwise designed for biocidal action)

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<b>Mobility in Environmental Media:</b>	Not Available
<b>Bioaccumulation/ Accumulation:</b>	Data for 100% Dodecyl Sulfate, Sodium Salt: Fish (Proterorhinus marmoratus 240 day 15°C 4 mg/L BCF 7.15 (Not bioaccumulative)

### 13. DISPOSAL MEASURES

<b>Waste Disposal Method:</b>	Observe all Federal, State and Local laws concerning health and pollution. Avoid escape into water, drainage, sewer, or the ground. Collection of small amounts of substance: Place in a collection container for halogen-free organic solvents and solutions of halogen-free organic substances.  Collection vessels must be clearly labelled with a systematic description of their contents. Store the vessels in a well-ventilated location. Entrust them to the appropriate authorities for disposal.
<b>Contaminated Packaging:</b>	Avoid contact with skin and clothing. Dispose of in compliance with the respective national and local regulations.
<b>US EPA Waste Number:</b>	Not Available

### 14. TRANSPORTATION MEASURES

<b>DOT:</b>	Not Available
<b>IATA:</b>	Not Available
<b>ADR (road)/ RID (rail):</b>	Not Available
<b>IMDG (sea):</b>	Not Available
<b>General Transport Regulations</b>	Not Available

### 15. REGULATORY MEASURES

**This product is a mixture that may contain one or more hazardous chemicals. The hazardous ingredients listed are only those as required by 29 CFR 1910.1200 (OSHA HCS).**

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains no chemical or chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372. SARA Section 311/312

#### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (See 40 CFR 61)**

This product contains no chemicals which are subject to the reporting requirements of the Clean Air Act, Section 112 HAPS.

#### **State Regulations**



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**California Proposition 65:**

This product contains the following Proposition 65 chemicals

None Listed

**State Right to Know Act**

<b>Chemical Name:</b>	<b>Formamide</b>	<b>Sodium Dodecyl Sulfate</b>
<b>Massachusetts:</b>	Listed	Not Listed
<b>New Jersey:</b>	Listed	Not Listed
<b>Pennsylvania:</b>	Listed	Not Listed
<b>New York:</b>	Listed	Not Listed
<b>Rhode Island:</b>	Not Listed	Not Listed

**International Inventories**

<b>Chemical Name:</b>	<b>Formamide</b>	<b>Sodium Dodecyl Sulfate</b>
<b>TSCA:</b>	Listed	Listed
<b>DSL:</b>	Listed	Listed
<b>NDSL:</b>	Not Listed	Not Listed
<b>EINECS:</b>	Listed	Listed
<b>CHINA:</b>	Listed	Listed
<b>KECL:</b>	Listed	Listed
<b>JAPAN:</b>	Listed	Listed
<b>AICS:</b>	Listed	Listed

**EU Regulations**

**Annex I Index#:** **Data for Formamide:** 616-052-00-8

**Classification:** Reproductive toxicity, Category 1B; H360D Acute toxicity, Category 4, oral; H302 Acute toxicity, Category 3, dermal; H311 Skin irritation, Category 2; H315

Eye irritation, Category 2; H319

Specific Target Organ Toxicity (single exposure), Category 3; H335, Carcinogenic

**Risk Phrases**

H360D: May damage the unborn child.

H302: Harmful if swallowed. H311: Toxic in contact with skin. H315: Causes skin irritation.

H319: Causes serious eye irritation. H335: May cause respiratory irritation.

H351: Suspected to cause cancer

**Safety Phrases**

P201: Obtain special instructions before use.

P308+P313: IF exposed or concerned: Get medical advice/attention.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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P309+P310: IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician

<b>Symbols and Indications of Danger</b>	GHS08 Dgr: Danger
<b>Specific Concentration Limits</b>	Not Available
<b>Export and Import</b>	This substance is not listed in the Annex I of Regulation (EC) No 649/2012.
<b>European Priority List</b>	This substance is not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93 on the evaluation and control of the risks of existing substances.).
<b>REACH (EU) 1907/2006</b>	Formamide is listed in candidate list as Substance for Very High concern (SVHC) : toxic for reproduction.

<b>Hazard Statements:</b>	Refer to section 2
<b>Precautionary Statements:</b>	See section 2 above
<b>Symbols and Indications of Danger:</b>	See section 2 above
<b>Specific Concentration Limits:</b>	Not available

## 16. OTHER INFORMATION

The above information is believed to be accurate, complete and current but does not purport to be all inclusive and shall be used as a guide. SeraCare Life Sciences makes no representation or warranties with respect to the product described herein, including but not limited to any implied warranties or merchantability or fitness for a particular use. SeraCare assumes no liability or responsibility and authorizes no other person to assume any additional liability or responsibility as a result of the use of this product or the information contained in the Safety Data Sheet.

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