

## Material Safety Data Sheet

United States  
English

## Section 1. Chemical product and company identification

**Product name** Loading Dye; part of 'Thermo Sequenase™  
Fluorescent Labelled Primer Cycle Sequencing Kit,  
500 templates'

**Catalogue Number** RPN2536



**Component Number** NIF1644

**Material uses** Industrial applications: Analytical chemistry. Research.

**Product type** Liquid.

**Validation date** 8 July 2011

**Print date** 08 July 2011

**Supplier** GE Healthcare UK Ltd  
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Little Chalfont  
Buckinghamshire HP7 9NA  
England  
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**In case of emergency**

US	ChemTrec (US)	1-800-424-9300
Canada	ChemTrec (US)	1-703-527-3887

## 2. Hazards identification

**Physical state** Liquid.

**Odor** Ammoniacal.

**OSHA/HCS status** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Emergency overview** WARNING!

CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE ADVERSE DEVELOPMENTAL EFFECTS.

**Precautionary measures** Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Use personal protective equipment as required. Wash thoroughly after handling.

**Potential acute health effects**

**Eyes** Irritating to eyes.

**Skin** Irritating to skin.

**Inhalation** Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Ingestion** Harmful if swallowed.

**Potential chronic health effects**

**Chronic effects** Contains material that can cause target organ damage.

**Carcinogenicity** No known significant effects or critical hazards.

**Mutagenicity** No known significant effects or critical hazards.

**Teratogenicity** No known significant effects or critical hazards.

**Developmental effects** Contains material which can cause developmental abnormalities.

**Fertility effects** No known significant effects or critical hazards.

**Target organs** Contains material which may cause damage to the following organs: the reproductive system, mucous membranes, upper respiratory tract, skin, eyes, central nervous system (CNS).



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<b>Inhalation</b>	Adverse symptoms may include the following: respiratory tract irritation coughing reduced fetal weight increase in fetal deaths
<b>Ingestion</b>	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths
<b>Skin</b>	Adverse symptoms may include the following: irritation redness reduced fetal weight increase in fetal deaths
<b>Eyes</b>	Adverse symptoms may include the following: pain or irritation watering redness reduced fetal weight increase in fetal deaths
<b>Medical conditions aggravated by over-exposure</b>	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

### 3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
Formamide	75-12-7	95

### Section 4. First aid measures

<b>Eye contact</b>	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
<b>Inhalation</b>	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
<b>Ingestion</b>	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

### Section 5. Fire-fighting measures

<b>Flammability of the product</b>	In a fire or if heated, a pressure increase will occur and the container may burst.
<b><u>Extinguishing media</u></b>	
<b>Suitable</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	None known.
<b>Special exposure hazards</b>	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>Hazardous combustion products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### Section 6. Accidental release measures

<b>Personal precautions</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
<b>Environmental precautions</b>	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).



<b>Methods for cleaning up</b>	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

<b>Handling</b>	Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Storage</b>	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Product name

Formamide

### Exposure limits

#### ACGIH TLV (United States, 2/2010). Absorbed through skin.

TWA: 18 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

#### NIOSH REL (United States, 6/2009). Absorbed through skin.

TWA: 15 mg/m<sup>3</sup> 10 hour(s).

TWA: 10 ppm 10 hour(s).

#### OSHA PEL 1989 (United States, 3/1989).

STEL: 45 mg/m<sup>3</sup> 15 minute(s).

STEL: 30 ppm 15 minute(s).

TWA: 30 mg/m<sup>3</sup> 8 hour(s).

TWA: 20 ppm 8 hour(s).

<b>Recommended monitoring procedures</b>	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
<b>Engineering measures</b>	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
<b>Hygiene measures</b>	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Personal protection</b>	
<b>Respiratory</b>	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
<b>Hands</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
<b>Eyes</b>	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
<b>Skin</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Environmental exposure controls</b>	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

Physical state	Liquid.
Flash point	Closed cup: >93.3°C (>199.9°F)
Color	Red.
Odor	Ammoniacal.
Volatility	95% (w/w)
Odor threshold	100 ppm
VOC	85 % (w/w) [ISO 11890-1]
Solubility	Easily soluble in the following materials: cold water and hot water.

## Section 10. Stability and reactivity

Stability	The product is stable.
Materials to avoid	No specific data.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions of reactivity	Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.

## Section 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Formamide	LD50 Dermal LD50 Oral	Rabbit Rat	17 g/kg 4000 mg/kg	- -

Conclusion/Summary Not available.

### Sensitizer

Conclusion/Summary Not available.

## Section 12. Ecological information

Environmental effects No known significant effects or critical hazards.

### Aquatic ecotoxicity

Conclusion/Summary Not available.

### Biodegradability

Conclusion/Summary Not available.

Other adverse effects No known significant effects or critical hazards.

## Section 13. Disposal considerations

Waste disposal The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.



## Section 14. Transport information

International transport regulations

Not classified.

## Section 15. Regulatory information

**HCS Classification**Irritating material  
Target organ effects**U.S. Federal regulations**☑ **TSCA 8(a) PAIR:** Formamide**TSCA 8(a) IUR Exempt/Partial exemption:** Not determined**United States inventory (TSCA 8b):** All components are listed or exempted.☑ **SARA 302/304/311/312 extremely hazardous substances:** No products were found.**SARA 302/304 emergency planning and notification:** No products were found.**SARA 302/304/311/312 hazardous chemicals:** Formamide**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Formamide: Immediate (acute) health hazard, Delayed (chronic) health hazard**Clean Water Act (CWA) 307:** No products were found.**Clean Water Act (CWA) 311:** No products were found.**Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.**Clean Air Act Section 112(b)  
Hazardous Air Pollutants (HAPs)**

☑ Not listed

**Clean Air Act Section 602 Class I  
Substances**

☑ Not listed

**Clean Air Act Section 602 Class II  
Substances**

☑ Not listed

**DEA List I Chemicals (Precursor  
Chemicals)**

☑ Not listed

**DEA List II Chemicals (Essential  
Chemicals)**

☑ Not listed

State regulations**Massachusetts**

☑ The following components are listed: FORMAMIDE

**New York**

☑ None of the components are listed.

**New Jersey**

☑ The following components are listed: FORMAMIDE

**Pennsylvania**

☑ The following components are listed: FORMAMIDE

California Prop. 65

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Glycine, N,N'-1,2-ethanedilylbis[N-(carboxymethyl), disodium salt, dihydrate	No.	No.	No.	No.

**United States inventory (TSCA 8b)** All components are listed or exempted.International regulations**International lists**☑ **Australia inventory (AICS):** All components are listed or exempted.**China inventory (IECSC):** All components are listed or exempted.**Japan inventory:** All components are listed or exempted.**Korea inventory:** All components are listed or exempted.**New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.**Philippines inventory (PICCS):** All components are listed or exempted.**Chemical Weapons Convention  
List Schedule I Chemicals**

☑ Not listed

**Chemical Weapons Convention  
List Schedule II Chemicals**

☑ Not listed



Chemical Weapons Convention

List Schedule III Chemicals

Not listed

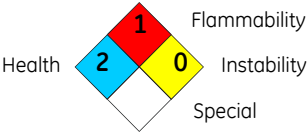
Section 16. Other information

Label requirements

CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE ADVERSE DEVELOPMENTAL EFFECTS.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



Indicates information that has changed from previously issued version.

History

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Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

