

# HOLOGIC™

## MATERIAL SAFETY DATA SHEET

### 1.0 PRODUCT AND COMPANY IDENTIFICATION:

**Product Name:** Genfind™ DNA Extraction Kit

**Product Number:** 95-449

**Supplier:** Hologic, Inc.  
502 South Rosa Road  
Madison, Wisconsin 53719-1256 USA  
608-273-8933

**In Case of Emergency:** CALL CHEMTREC  
1-800-424-9300 (North America) - Chemtrec  
1-703-527-3887 (International) - Chemtrec

### 2.0 COMPOSITION/INFORMATION ON INGREDIENTS:

The product is composed of the following materials and other non-hazardous constituents:

Ingredients: Genfind™ Binding Buffer (BB)

CAS No.	EC No.	Name	Concentration	Danger	Risk
7681-82-5	231-679-3	Sodium iodide	≥20%	Xn	R36/37/38/63

Ingredients: Genfind™ Lysis Buffer (LB)

CAS No.	EC No.	Name	Concentration	Danger	Risk
9036-19-5	NA	Octylphenoxyethyl(ethoxyethanol)	<3%	Xi	R36/38

Ingredients: Genfind™ Proteinase K (PK)

CAS No.	EC No.	Name	Concentration	Danger	Risk
39450-01-6	254-457-8	Proteinase K	≥20%	Xn	R36/37/38/ 42/43

Ingredients: Genfind™ Wash Buffer (WB)

CAS No.	EC No.	Name	Concentration	Danger	Risk
57-13-6	200-315-5	Urea	<40%	NA	NA

### 3.0 HAZARDS IDENTIFICATION:

#### **Genfind™ Binding Buffer (BB)**

Exposure may result in irritation of skin, eyes, and mucous membranes.  
Possible risk to unborn child.

Sodium azide forms explosive compounds with heavy metals. This product contains concentrations of azide <0.1% (w/w) which with repeated contact with lead and copper commonly found in plumbing drains may result in the buildup of shock sensitive compounds

#### **Genfind™ Lysis Buffer (LB)**

May cause skin, eye and respiratory tract irritation.  
Reproductive effects have been reported in several animal studies.

Sodium azide forms explosive compounds with heavy metals. This product contains concentrations of azide <0.1% (w/w) which with repeated contact with lead and copper commonly found in plumbing drains may result in the buildup of shock sensitive compounds.

#### **Genfind™ Proteinase K (PK)**

Exposure may cause skin, eye, and respiratory irritation. Inhalation may cause difficulty in breathing and lung congestion.

#### **Genfind™ Wash Buffer (WB)**

May cause eye and skin irritation. Additional effects may include allergic, respiratory, and skin reactions.

**See Section 11 (Toxicological Information) for more detailed health information.**

### 4.0 FIRST AID MEASURES:

**Inhalation** If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration immediately and obtain medical attention.

**Eye Contact** If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. If pain or irritation occurs, obtain medical attention.

**Skin Contact** In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If pain or irritation occurs, obtain medical attention.

**Ingestion** If ingested, wash mouth out with water. If irritation or discomfort occurs, seek medical attention.

### 5.0 FIRE FIGHTING MEASURES:

No Restrictions

### 6.0 ACCIDENTAL RELEASE MEASURES (SEE ALSO 8.0 AND 13.0):

**After Spillage**      **General**      Carefully remove any spilled material.

## 7.0 HANDLING AND STORAGE:

<b>Handling</b>	<b>General</b>	Take the normal safety precautions for handling chemicals. Wear suitable protective clothing (See also 8.0).
<b>Storage</b>	<b>Genfind™ Binding Buffer</b>	Store at 2°C to 8°C
	<b>Genfind™ Lysis Buffer</b>	Store at room temperature (15°C to 30°C)
	<b>Genfind™ Proteinase K</b>	Store at -30°C to -15°C
	<b>Genfind™ Wash Buffer</b>	Store at room temperature (15°C to 30°C)

## 8.0 EXPOSURE CONTROLS/PERSONAL PROTECTION:

<b>Personal Protection General</b>	Take normal safety precautions for handling chemicals. Wear gloves, safety goggles and lab coat. Do not eat, smoke or drink at workplace. Wash hands thoroughly before breaks and at the end of work.
------------------------------------	---

## 9.0 PHYSICAL AND CHEMICAL PROPERTIES:

<b>Genfind™ Binding Buffer</b>	Clear, odorless, brown liquid with brown precipitate; <b>pH</b> 6.7-7.8 @20°C
<b>Genfind™ Lysis Buffer</b>	Clear, odorless, colorless liquid; <b>pH</b> 7.5-7.9 @20°C
<b>Genfind™ Proteinase K</b>	Odorless, white powder
<b>Genfind™ Wash Buffer</b>	Clear, yellow to brown solution with faint iodine odor; <b>pH</b> 6.5-7.9 @20°C

## 10.0 STABILITY AND REACTIVITY:

<b>Stability</b>	<b>General</b>	Observe expiration date and package insert instructions.
<b>Genfind™ Lysis Buffer (LB) &amp; Genfind™ Binding Buffer (BB)</b>		Sodium azide forms explosive compounds with heavy metals. This product contains concentrations of azide <0.1% (w/w) which with repeated contact with lead and copper commonly found in plumbing drains may result in the buildup of shock sensitive compounds.
<b>Conditions to Avoid</b>	<b>General</b>	Avoid contact with strong oxidizers, strong bases, and strong acids.

## 11.0 TOXICOLOGICAL PROPERTIES:

### Genfind™ Binding Buffer (BB)

#### Toxicity Data for Hazardous Ingredients

Sodium Iodide:  
Oral LD50 Rat: 4340 mg/kg

#### Primary Routes of Exposure

The most likely routes of exposure are skin and eye contact. Inhalation may occur if mists are formed in product use.

<b>Potential Effects of Acute Exposure</b>	May cause irritation of nose, skin, and eyes. Additional effects may include headache, nausea, and vomiting.
<b>Potential Effects of Chronic Exposure</b>	Eye and skin contact may cause moderate to severe irritation. Inhalation of mists may cause irritation to the mucous membranes and respiratory tract. Ingestion may cause mucous membrane and gastrointestinal irritation with nausea, vomiting and abdominal pain. Chronic ingestion of iodides during pregnancy may result in fetal death or cretinoid appearance of the newborn. Iodide, which in high concentration, can suppress the thyroid.
<b>Symptoms of Overexposure</b>	Inhalation, skin absorption or ingestion may result in nausea, headache, stupor, decreased blood pressure and loss of consciousness. Inhalation may also cause a burning sensation, shortness of breath, laryngitis, coughing and chest pain. Skin contact may result in irritation, burning or inflammation; eye contact may cause irritation, stinging, redness and watering of the eyes.
<b>Carcinogenicity</b>	No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 67/548/EEC Annex I.
<b>Other Effects</b>	Reproductive effects have been reported.
<b>Conditions Aggravated by Exposure</b>	None identified.
<b>Genfind™ Lysis Buffer (LB)</b>	
<b>Toxicity Data for Hazardous Ingredients</b>	Octylphenoxy poly(ethoxyethanol): Oral LD50 Rat: 4190 mg/kg
<b>Primary Routes of Exposure</b>	The most likely routes of exposure are skin and eye contact. Inhalation may occur if mists are formed in product use.
<b>Potential Effects of Acute Exposure</b>	Skin or eye contact may cause irritation. Ingestion may result in gastrointestinal discomfort and diarrhea.
<b>Potential Effects of Chronic Exposure</b>	Prolonged and/or repeated exposure may result in conjunctivitis, dermatitis and allergic reactions.

<b>Symptoms of Overexposure</b>	Inhalation, skin absorption or ingestion may result in nausea, vomiting, headache, loss of appetite, abdominal pain, stupor, decreased blood pressure and loss of consciousness. Skin contact may result in irritation, burning or inflammation; eye contact may cause irritation, stinging, and red, watery eyes.
<b>Carcinogenicity</b>	This product does not contain a reportable concentration ( $\geq 0.1\%$ ) of any ingredient listed as carcinogens by ACGIH, IARC, NTP, OSHA or 67/548/EEC Annex I.
<b>Other Effects</b>	Animal studies with octylphenoxypoly(ethoxyethanol) indicate possible reproductive effects.
<b>Conditions Aggravated by Exposure</b>	None identified
<b>Genfind™ Proteinase K (PK)</b>	
<b>Toxicity Data for Hazardous Ingredients Primary Routes of Exposure</b>	Not applicable  Common routes of entry include inhalation, ingestion and eye/skin contact. Specific paths of concern for potentially infectious materials are skin puncture, contact with broken skin, contact with mucous membranes and inhalation of aerosolized material.
<b>Potential Effects of Acute Exposure</b>	This product should be handled as though capable of transmitting infectious diseases. Universal precautions should be followed when using this product. May cause eye and skin irritation. Additional effects may include allergic, respiratory, and skin reactions.
<b>Potential Effects of Chronic Exposure</b>	Prolonged and/or repeated exposure may result in conjunctivitis, dermatitis and allergic reactions. May cause sensitization by inhalation.
<b>Symptoms of Overexposure</b>	Symptoms may include redness and itching or burning of the skin and eyes. Symptoms may include redness and itching or burning of the skin and eyes, and irritation or burning sensation of the upper respiratory tract with coughing and difficulty in breathing.
<b>Carcinogenicity</b>	No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 67/548/EEC Annex I.
<b>Other Effects</b>	None identified.
<b>Conditions Aggravated by Exposure</b>	None identified.

## Genfind™ Wash Buffer (WB)

### Toxicity Data for Hazardous Ingredients

Urea:  
Oral LD50 Rat: 8471 mg/kg;  
Dermal LD50 Rat: 8200 mg/kg

### Primary Routes of Exposure

The most likely routes of exposure are skin and eye contact. Inhalation may occur if mists are formed in product use.

### Potential Effects of Acute Exposure

Eye and skin contact may cause moderate to severe irritation. Inhalation of mists may cause irritation to the mucous membranes and respiratory tract. Ingestion may cause mucous membrane and gastrointestinal irritation with nausea, vomiting and abdominal pain.

### Potential Effects of Chronic Exposure

Effects are similar to those for acute exposure.

### Symptoms of Overexposure

Symptoms may include redness and itching or burning of the skin and eyes, and irritation or burning sensation of the upper respiratory tract with coughing and difficulty in breathing. Symptoms may include: headache, dizziness, nausea, incoordination, central nervous system depression.

### Carcinogenicity

No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 67/548/EEC Annex I.

### Other Effects

Mutagenic and teratogenic effects have been reported in animal studies.

### Conditions Aggravated by Exposure

Individuals with skin, eye, or respiratory tract disorders may find these conditions aggravated by exposure to this product. Individuals with kidney disorders may find these conditions aggravated by exposure to this product.

## 12.0 ECOLOGICAL INFORMATION:

Toxic to fish and other water organisms.

## 13.0 DISPOSAL CONSIDERATIONS:

Patient samples and all materials used for the reaction must be considered potentially able to transmit infectious agents. They should be disposed of following established safety procedures and local regulations.

Product components (product residuals/packaging) can be considered as laboratory waste. Observe all federal, state and local regulations.

Sodium azide preservative in Genfind™ Lysis Buffer (LB) and Genfind™ Binding Buffer (BB) may form explosive compounds in metal drain lines. See NIOSH Bulletin: Explosive Azide Hazard (\*16/76)

**14.0 TRANSPORTATION:**

No Restrictions

**15.0 REGULATORY INFORMATION:**

**Labeling according to EEC Directives:** This MSDS document complies with Directive 91/155/EEC

**Genfind™ Binding Buffer (BB)**

<b>US Federal and State Regulations</b>	
SARA 313	Lead is subject to reporting requirements of Section 313, Title III of SARA. Barium is subject to reporting requirements of Section 313, Title III of SARA. Sodium Azide is subject to reporting requirements of Section 313, Title III of SARA.
CERCLA RG's, 40 CFR 302.4	Lead is listed. Sodium Azide is listed.
California Proposition 65	Lead has been identified by the State of California to cause cancer and reproductive harm. The State of California has adopted a regulation which requires a warning be given to individuals who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. Accordingly, Hologic advises you of the following warning:  <b>WARNING:</b> This product contains a chemical known to the State of California to cause cancer and reproductive harm.
Massachusetts MSL	Lead is listed. Magnesium is listed. Barium is listed. Calcium is listed. Sodium Azide is listed.
New Jersey Dept. of Health RTK List	Lead is listed. Magnesium is listed. Barium is listed. Calcium is listed. Sodium Azide is listed.
Pennsylvania RTK	Lead is listed. Magnesium is listed. Barium is listed. Calcium is listed. Sodium Azide is listed.
<b>EU Labeling Classification</b>	
<b>Classification</b> Xn Harmful	<b>Risk and Safety Phrases</b> R36/37/38 Irritating to eyes, respiratory system and skin. R63 Possible risk to unborn child. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37/39 Wear suitable gloves and eye/face protection.

	S46 If swallowed, seek medical advice immediately and show this container or label.
<b>Canada</b>	
WHMIS Classification:	D2A—Poisonous and Infections Material: Division 2—Other Toxic Effects: Very Toxic (Teratogenicity and Embryotoxicity)
PIN:	Not applicable
Ingredients on Ingredient Disclosure List:	Lead Sodium Iodide Sodium Azide
Ingredients with unknown toxicological properties:	None

### Genfind™ Lysis Buffer (LB)

<b>US Federal and State Regulations</b>	
SARA 313	Ethylene Oxide is subject to reporting requirements of Section 313, Title III of SARA. 1,4-Dioxane is subject to reporting requirements of Section 313, Title III of SARA.  Lead is subject to reporting requirements of Section 313, Title III of SARA.  Sodium Azide is subject to reporting requirements of Section 313, Title III of SARA.
CERCLA RG's, 40 CFR 302.4	Ethylene Oxide is listed. 1,4-Dioxane is listed. Lead is listed. Sodium Azide is listed.
California Proposition 65	Ethylene Oxide has been identified by the State of California to cause cancer and reproductive harm. The State of California has adopted a regulation which requires a warning be given to individuals who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. Accordingly, Hologic advises you of the following warning:  <b>WARNING:</b> This product contains a chemical known to the State of California to cause cancer and reproductive harm.  1,4-Dioxane has been identified by the State of California to cause cancer. The State of California has adopted a regulation which requires a warning be given to individuals who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. Accordingly, Hologic advises you of the following warning:  <b>WARNING:</b> This product contains a chemical known to the State of California to cause cancer.  Lead has been identified by the State of California to cause cancer and reproductive harm. The State of California has adopted a regulation which requires a warning be given to individuals who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. Accordingly, Hologic advises you of the following warning:  <b>WARNING:</b> This product contains a chemical known to the State of California to cause cancer and reproductive harm.
Massachusetts MSL	Ethylene Oxide is listed. 1,4-Dioxane is listed. Lead is listed. Magnesium is listed. Calcium is listed. Sodium Azide is listed.

New Jersey Dept. of Health RTK List	Ethylene Oxide is listed. 1,4-Dioxane is listed. Lead is listed. Magnesium is listed. Calcium is listed. Sodium Azide is listed. octylphenoxypoly(ethoxyethanol) is listed.
Pennsylvania RTK	Ethylene Oxide is listed. 1,4-Dioxane is listed. Lead is listed. Magnesium is listed. Calcium is listed. Sodium Azide is listed.
<b>EU Labeling Classification</b>	
Preparation not classified.	
<b>Canada</b>	
WHMIS Classification:	D2B—Poisonous and Infectious Material: Division 2—Other Toxic Effects: Toxic (Skin Irritation)  D2B—Poisonous and Infectious Material: Division 2—Other Toxic Effects: Toxic (Eye Irritation)
PIN:	Not applicable
Ingredients on Ingredient Disclosure List:	Ethylene Oxide 1,4-Dioxane Sodium Lauryl Sulfate Lead octylphenoxypoly(ethoxyethanol) Sodium Azide
Ingredients with unknown toxicological properties:	None

### Genfind™ Proteinase K (PK)

<b>US Federal and State Regulations</b>	
SARA 313	No ingredients listed
CERCLA RG's, 40 CFR 302.4	No ingredients listed
California Proposition 65	No ingredients listed
Massachusetts MSL	No ingredients listed
New Jersey Dept. of Health RTK List	No ingredients listed
Pennsylvania RTK	No ingredients listed
<b>EU Labeling Classification</b>	
<b>Classification</b>  Xn Harmful	<b>Risk and Safety Phrases</b>  R36/37/38 Irritating to eyes, respiratory system and skin. R42 May cause sensitization by inhalation. S22 Do not breathe dust.

	S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
<b>Canada</b>	
WHMIS Classification:	D2B—Poisonous and Infectious Material: Division 2—Other Toxic Effects: Toxic (Skin Irritation) D2B—Poisonous and Infectious Material: Division 2—Other Toxic Effects: Toxic (Eye Irritation) D2B—Poisonous and Infectious Material: Division 2—Other Toxic Effects: Toxic (Skin sensitization)
PIN:	Not applicable
Ingredients on Ingredient Disclosure List:	None
Ingredients with unknown toxicological properties:	None

### Genfind™ Wash Buffer (WB)

<b>US Federal and State Regulations</b>	
SARA 313	No ingredients listed Lead is subject to reporting requirements of Section 313, Title III of SARA. Copper is subject to reporting requirements of Section 313, Title III of SARA.
CERCLA RG's, 40 CFR 302.4	Lead is listed. Copper is listed.
California Proposition 65	Lead has been identified by the State of California to cause cancer and reproductive harm. The State of California has adopted a regulation which requires a warning be given to individuals who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. Accordingly, Hologic advises you of the following warning: <b>WARNING:</b> This product contains a chemical known to the State of California to cause cancer and reproductive harm.
Massachusetts MSL	Lead is listed. Magnesium is listed. Copper is listed. Calcium is listed.
New Jersey Dept. of Health RTK List	Lead is listed. Magnesium is listed. Copper is listed. Calcium is listed. Urea is listed.
Pennsylvania RTK	Lead is listed. Magnesium is listed. Copper is listed. Calcium is listed.
<b>EU Labeling Classification</b>	
Preparation not classified	
<b>Canada</b>	

WHMIS Classification:	This product does not meet WHMIS criteria for hazardous materials.
PIN:	Not applicable
Ingredients on Ingredient Disclosure List:	Lead Copper
Ingredients with unknown toxicological properties:	None

<b>16.0 OTHER INFORMATION:</b>
--------------------------------

**Limitations:** This product is intended for use by laboratory professionals.

The information is correct and complete to the best of our present knowledge and is given in good faith but without warranty. Neither does it represent a guarantee of the properties of the product.