

Material Safety Data Sheet

Revision: 08/27/2007



Formamide



Tris-HCl

Hazard information is provided for compliance with both the UK Chemicals (Hazard Information and Packaging) (CHIP) Regulations and the US Hazard Communication Standard (HCS)

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

PRODUCT NAME:
ThermoSequenase™ Radiolabeled Terminator Cycle Sequencing Kit

PRODUCT CODE:
79750/79760/79770

EEC NUMBER:
None

SUPPLIER:

USB Corporation, 26111 Miles Road, Cleveland, Ohio 44128 Phone: (216) 765-5000
Please visit our website at www.usbweb.com for contact information on USB product distributors within your area.

Emergency Contact:

Chemtec (800) 424-9300
Outside USA & Canada 703 527 3887

COMPOSITION/HAZARDOUS COMPONENTS

HAZARD

CAS NO.

%WT

TLV

CHIP R & S Phrases

Formamide in 70724

75-12-7

96%

10 ppm
(ACGIH)

R:61 May cause harm to the unborn child.
S:53 Avoid exposure-Obtain special instructions before use.
S:45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

Tris-HCl in 79802

1185-53-1

4.1%

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R:36/37/38 Irritating to eyes, respiratory system and skin.
S:23 Do not breathe vapour.
S:36/37 Wear suitable protective clothing and gloves.

HAZARDS IDENTIFICATION

CHIP

Formamide: Toxic to Reproduction, Category 2. Tris-HCl: Irritant.

HCS

Formamide: Teratogen. Tris-HCl: Irritant.

FIRST-AID MEASURES

EYES: Flush with water for 15 minutes. Seek medical advice if irritation persists.

SKIN: Flush with water, then wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if irritation persists.

INHALATION: Remove the victim from exposure and move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Keep victim quiet and warm. Seek immediate medical attention.

INGESTION: Drink water and seek immediate medical attention. Avoid alcoholic beverages. Never give anything by mouth to an unconscious person.

FIRE-FIGHTING INFORMATION

Use media suitable to extinguish the supporting or surrounding fire. Wear NIOSH (or equivalent) approved self contained breathing apparatus. For small fires only: use carbon dioxide, dry powder or foam. Fires involving Formamide are likely to produce very toxic gases such as carbon monoxide and ammonia, which should not be inhaled.

Flash Point For Formamide = 154°C (309°F): Open Cup.

ACCIDENTAL RELEASE MEASURES

Wear appropriate personal protective equipment and clothing including lab coat, safety glasses, gloves and NIOSH-approved respirator. Collect in a manner that does not create dust and place in a suitable waste container. Avoid contact of material with skin or eyes. Use adequate ventilation.

HANDLING AND STORAGE

Wear appropriate personal protective equipment and clothing including lab coat, safety glasses, gloves and NIOSH-approved respirator. Use adequate ventilation. Avoid contact of material with skin or eyes. Store at -20°C away from incompatible materials.

PERSONAL PROTECTION

Wear appropriate personal protective equipment and clothing including lab coat, safety glasses, gloves and NIOSH-approved respirator. A qualified industrial hygienist should evaluate the need for respiratory protection. Use respiratory protection approved by NIOSH (or equivalent) and appropriate to the hazard. Avoid contact of material with skin or eyes. Mechanical ventilation or local exhaust as needed to control exposure to dust, vapors or mists. Access to a safety shower and eye-wash. Pregnant women and women of child-bearing age should limit exposure to Formamide.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Kit containing vials of solution
Vapor Pressure: For Formamide = 1 @ 70.5°C
Solubility (Water): For Formamide = Insoluble in water
Percent Volatile: For Formamide = 100%
Chemical Formula: No data available

Boiling Point: For Formamide = 210°C
Vapor Density: For Formamide = 1.55
Specific Gravity: For Formamide = 1.134
Evaporation Rate: For Formamide = <1
Melting Point: For Formamide = 2-3°C

STABILITY AND REACTIVITY

Product is stable. Avoid freeze-thaw cycles. **For Formamide:** Absorbs moisture from air. Burning may produce ammonia, carbon monoxide and nitrogen oxides. At boiling point may produce ammonia, carbon monoxide and hydrogen cyanide. Hazardous polymerization will not occur. Incompatibilities: Acids, alkalines, iodine, pyridine and sulfur trioxide. Copper, brass, lead and rubber are attacked by Formamide. Decomposes at temperatures above 180°C.

TOXICOLOGICAL INFORMATION

EFFECTS OF OVEREXPOSURE:

FOR FORMAMIDE:

EYES: Contact may cause irritation.
SKIN: Contact may cause irritation. May be absorbed through the skin. Symptoms may parallel ingestion.
INHALATION: May cause irritation. Symptoms may include coughing and shortness of breath. Vapors are irritating to nose, throat & lungs.
INGESTION: Chronic ingestion or excessive dosage may cause central nervous system disorders, headache, dizziness, nausea, vomiting, abdominal pain, and unconsciousness. May affect the reproductive system. May cause damage to liver & denatures proteins. Has caused embryo toxicity and birth defects in animal studies.

ADDITIONAL INFORMATION:

Reproductive effects mutation, and toxicity data listed in RTECS under LQ0525000.
Oral Rat LD50 = 5577 mg/kg (Moscow, USSR - 1967). Toxic effects may include convulsions, proteinuria, changes in leukocyte (WBC) count, changes in platelet count, dermatitis and death.
Reproductive: Effects on embryo or fetus included fetotoxicity (except death, e.g. stunted fetus) (1971) and fetal death (1977).
Specific developmental abnormalities - musculoskeletal system and craniofacial (1971).
Fertility - post implantation mortality (e.g. dead and/or reabsorbed implants per total number of implants (1980).

FOR TRIS-HCI:

SKIN: Contact may cause redness, swelling and pain at any site, especially mucous membranes.
INHALATION: Excessive inhalation of dust may cause irritation, cough and shortness of breath.
INGESTION: Chronic ingestion or excessive dosage may cause nausea, vomiting and diarrhea; large amounts may cause weakness, collapse and coma.

ADDITIONAL INFORMATION:

RTECS: No data available.
Definition(s): RTECS = Registry of Toxic Effects of Chemical Substances.
ACGIH = American Conference of Governmental Industrial Hygienists.
NIOSH = National Institute for Occupational Safety and Health.

ECOLOGICAL INFORMATION

For Formamide: When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material is expected to leach into groundwater. This material has an estimated bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of less than 1 day.

DISPOSAL CONSIDERATIONS

Dispose of material in accordance with applicable local, state, and federal regulations.

TRANSPORTATION INFORMATION

US DOT / IATA: No applicable information.

REGULATORY INFORMATION

RCRA - No applicable information.
SARA 302 - No applicable information.
SARA 313 - No applicable information.
EPA TSCA Section 8(b) - For Formamide: Chemical Inventory.
Exposure Limits - For Formamide: ACGIH TLV-TWA 18 mg/m³ (10 ppm)(skin).
NIOSH REL to Formamide-air: 10H TWA 10 ppm (Sk).
California Proposition 65 - No applicable information.

This data sheet is based upon information believed to be reliable. The Company makes no statement or warranty as to the accuracy or completeness of the information contained herein which is offered for your consideration, investigation and verification. Any use of the information contained in this data sheet must be determined by the user to be in accordance with appropriate applicable regulations.