

# MATERIAL SAFETY DATA SHEET



Conforms to 93/112/EC and ISO 11014-1

## 1. Chemical Product and Company Identification

**Product Name:** Formamide

**Product Number:** EC-608

### Chemical Names/

#### Description:

Ultra-pure formamide.

### Manufacturer

National Diagnostics  
305 Patton Drive  
Atlanta, GA 30336

### Telephone Numbers

(800) 526-3867  
(404) 699-2121

### Emergency Numbers

#### Chemtrec

**(800) 424-9300 (U.S. & Canada)**  
**01-703-527-3887 (outside U.S. & Canada)**

## 2. Composition/Information on Ingredients

Component	% Comp.	CAS #	EINECS #	TLV (Units)
Formamide	>99	75-12-7	200-842-0	10 ppm TWA

## 3. Hazards Identification

### Appearance and Odor

Clear, colorless liquid.

#### EMERGENCY OVERVIEW - IMMEDIATE HAZARD

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM. MAY AFFECT THE REPRODUCTIVE SYSTEM.

#### EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING:

MAY CAUSE CONGENITAL MALFORMATION OF THE FETUS.

### Potential Health Effects

#### Inhalation

Causes irritation to the respiratory tract.

#### Ingestion

Causes irritation to the gastrointestinal tract. Affects the central nervous system. May affect the reproductive system.

**Skin**

Causes irritation to the skin. May be absorbed through the skin.

**Eyes**

Causes irritation to the eyes.

**Signs and Symptoms of Overexposure****Inhalation**

Symptoms may include coughing, shortness of breath. Excessive inhalation of vapor may cause symptoms that parallel ingestion, ranging from headache to unconsciousness, depending upon the duration and level of the exposure.

**Ingestion**

May cause headache, dizziness, nausea, vomiting, abdominal pain, and unconsciousness. May affect the reproductive system.

**Skin**

Symptoms include redness, itching, and pain. May be absorbed through the skin with symptoms parallel to ingestion.

**Eyes**

Redness and pain.

**Carcinogenicity**

Not listed as a known or anticipated carcinogen by NTP or IARC.

**Mutagenicity**

No information found.

**Reproductive Toxicity**

May cause congenital malformation of the fetus.

**Teratogenic Effects**

May cause congenital malformation of the fetus.

**Routes of Entry**

Ingestion, inhalation, and absorption through the skin.

**Target Organ Statement**

No information found.

**4. First Aid Measures****Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion**

DO NOT INDUCE VOMITING. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

**Skin**

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eyes**

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**5. Fire Fighting Measures**

Flash Point	154C (309F)	Flammable Limits	No Data
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Flash Point Method OC

Autoignition  
temperature

No Data

### **Extinguishing media**

Water spray, dry chemical, alcohol-resistant foam, or carbon dioxide. Water or foam may cause frothing.

### **Protective Equipment**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

### **Hazardous Combustion Products**

Highly toxic gases may be involved in fires of this product.

### **Unusual Fire and Explosion Hazards**

Above the flash point, explosive vapor-air mixtures may be formed.

NFPA Codes: Health 2 Flammability 1 Reactivity 0

## 6. Accidental Release Measures

### **Steps to be taken in case material is released or spilled**

Ventilate area. Cover with absorbent material (soda ash) to confine spill and sweep or shovel into container. Close container tightly. Avoid breathing vapors.

### **Waste Disposal Method**

Disposal must be made in accordance with applicable federal, state, and local regulations.

### **Personal Precautions**

Wear appropriate protective equipment as specified in section 8.

## 7. Handling and Storage

### **Handling**

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Wear special protective equipment (Sec. 8) where exposures may exceed established levels.

### **Storage**

Keep in a tightly closed container, stored in a cooled, dry, ventilated area. Protect from physical damage. Isolate from incompatible materials (section 10).

### **Storage Temperature**

room temperature

### **Disposal**

Observe all national, state, and local regulations regarding product disposal. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids).

## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits**

Component: Formamide

ACGIH Threshold Limit Value (TLV): 10 ppm TWA

OSHA Permissible Exposure Limit  
(PEL):

### **Engineering Controls**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

### **Respiratory Protection**

If the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.

### **Eye Protection**

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

### **Skin Protection**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

### **Other Control Measures**

N.A.

## 9. Physical Properties

<b>Boiling point</b>	210C (410F)	<b>Evaporation Rate</b>	
<b>Melting point</b>	2-3C (36-37F)	<b>Solubility in water</b>	Infinitely soluble
<b>Vapor pressure (mmHg)</b>	1 @ 71C	<b>pH</b>	7.1
<b>Vapor density (Air = 1)</b>	1.55 (air = 1)	<b>Specific gravity (H<sub>2</sub>O = 1)</b>	1.13 @20C
<b>% volatile by volume</b>	100		

## 10. Stability and Reactivity

### **Stability**

Stable under ordinary conditions of use and storage. Absorbs moisture from the air.

### **Conditions to Avoid**

Heat, flames, ignition sources, and incompatibles.

### **Hazardous Decomposition Products**

Burning may produce ammonia, carbon monoxide, carbon dioxide, nitrogen oxides. At boiling point: ammonia, carbon monoxide, and hydrogen cyanide.

### **Hazardous Polymerization**

Will not occur

### **Incompatibles**

Formamide:

Acids, alkalines, iodine, pyridine, and sulfur trioxide. Copper, brass, lead, and rubber are attacked by formamide.

## 11. Toxicological Information

## Product LD50 Values

Formamide Oral Rat LD50 (mg/kg): 5570  
Formamide Dermal Rabbit LD50 (mg/kg): No Data

## Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Formamide	No	No	None

## 12. Ecological Information

### 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.

## 13. Disposal Considerations

Observe all national, state, and local regulations regarding product disposal. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids).

## 14. Transport Information

### D.O.T.

Proper Shipping Name: Not regulated

Hazard Class: N.A.

UN Number: N.A.

Packing Group: N.A.

### I.A.T.A.

Proper Shipping Name: Not regulated

Hazard Class: N.A.

UN Number: N.A.

Packing Group: N.A.

### I.M.O.

Proper Shipping Name: Not regulated

Hazard Class: N.A.

UN Number: N.A.

Packing Group: N.A.

## 15. Regulatory Information

### United States

#### TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

**SARA 311/312 Hazard Categories**

Component	Fire	Pressure	Reactivity	Acute	Chronic
Formamide	No	No	No	Yes	Yes

**Europe****EEC Regulatory**

All intentional ingredients are listed on the European EINECS Inventory.

## 16. Other Information

**NFPA Codes: Health 2 Flammability 1 Reactivity 0**

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