



<b>MSDS</b> <b>Material Safety Data Sheet</b>	24 Hour Emergency Telephone: 908-859-2151 CHEMTREC: 1-800-424-9300
	National Response in Canada CANUTEC: 613-996-6666
From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865	Outside U.S. and Canada Chemtrec: 703-527-3887
 	<b>NOTE:</b> CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.
All non-emergency questions should be directed to Customer Service (1-800-582-2637) for assistance.	

## FORMAMIDE

### 1. Product Identification

**Synonyms:** Methanamide; carbamaldehyde  
**CAS No.:** 75-12-7  
**Molecular Weight:** 45.04  
**Chemical Formula:** CH<sub>3</sub>-N=O  
**Product Codes:**  
J. T. Baker: 4028, M520, M522  
Mallinckrodt: 1846, 3797, H599

### 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Formamide	75-12-7	90 - 100%	Yes

### 3. Hazards Identification

#### Emergency Overview

**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.**

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate (Life)  
Flammability Rating: 1 - Slight  
Reactivity Rating: 1 - Slight  
Contact Rating: 3 - Severe (Life)  
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES  
Storage Color Code: Green (General Storage)

#### Potential Health Effects

##### Inhalation:

Causes irritation to the respiratory tract. 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:

Causes irritation to the gastrointestinal tract. Affects the central nervous system. May cause headache, dizziness, nausea, vomiting, abdominal pain, and unconsciousness. May affect the reproductive system.

##### Skin Contact:

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

##### Eye Contact:

Causes irritation, redness, and pain.

##### Chronic Exposure:

No information found.

##### Aggravation of Pre-existing Conditions:

No information found.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

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

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention.

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## 5. Fire Fighting Measures

**Fire:**

Flash point: 154C (309F) OC  
Moderate fire hazard when heated.

**Explosion:**

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

**Fire Extinguishing Media:**

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

**Special Information:**

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. Fires involving formamide are likely to produce very toxic gases such as carbon monoxide and ammonia, which should not be inhaled.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer!

J. T. Baker SOLUSORB<sup>®</sup> solvent adsorbent is recommended for spills of this product.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**

Formamide:

ACGIH Threshold Limit Value (TLV):

10 ppm (TWA) Skin

NIOSH(REL): 10 ppm (TWA) Skin

**Ventilation System:**

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, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**Personal Respirators (NIOSH Approved):**

If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-facepiece respirator, airtight hood, or full-facepiece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

**Skin Protection:**

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

**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.

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## 9. Physical and Chemical Properties

**Appearance:**

Clear, colorless liquid.

**Odor:**

Faint ammonia odor.

**Solubility:**

Infinitely soluble.

**Density:**

1.13 @ 20C/4C

**pH:**

7.1

**% Volatiles by volume @ 21C (70F):**

100

**Boiling Point:**

210C (410F)

**Melting Point:**

2 - 3C (36 - 37F)

**Vapor Density (Air=1):**

1.55

**Vapor Pressure (mm Hg):**

1 @ 70.5C (158F)

**Evaporation Rate (BuAc=1):**

< 1

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## 10. Stability and Reactivity

**Stability:**

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

**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.

**Incompatibilities:**

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

**Conditions to Avoid:**

Heat, flames, ignition sources and incompatibles.

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## 11. Toxicological Information

**Toxicological Data:**

Formamide: Oral rat LD50: 5577 mg/kg; investigated as a tumorigen, mutagen, reproductive effector.

**Reproductive Toxicity:**

Has shown teratogenic effects in laboratory animals.

-----\Cancer Lists\-----

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Formamide (75-12-7)	No	No	None

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## 12. Ecological Information

**Environmental Fate:**

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.

**Environmental Toxicity:**

No information found.

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## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----  
Ingredient TSCA EC Japan Australia  
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Formamide (75-12-7) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----  
Ingredient Korea --Canada-- DSL NDSL Phil.  
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Formamide (75-12-7) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----  
Ingredient -SARA 302- -SARA 313-  
RQ TPQ List Chemical Catg.  
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Formamide (75-12-7) No No No No

-----\Federal, State & International Regulations - Part 2\-----  
Ingredient -RCRA- -TSCA-  
CERCLA 261.33 8(d)  
-----  
Formamide (75-12-7) No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No  
Reactivity: No (Pure / Liquid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

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

**Label Hazard Warning:**

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.

**Label Precautions:**

Avoid breathing vapor.  
Avoid contact with eyes, skin and clothing.  
Keep container closed.  
Use only with adequate ventilation.  
Wash thoroughly after handling.

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No Changes.

**Disclaimer:**

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