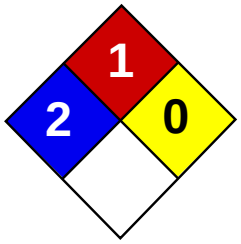


| | |
|---|---|
| Health | 2 |
| Fire | 1 |
| Reactivity | 0 |
| Personal Protection | H |

# Material Safety Data Sheet
## Formamide MSDS

## Section 1: Chemical Product and Company Identification

**Product Name:** Formamide

**Catalog Codes:** SLF1018

**CAS#:** 75-12-7

**RTECS:** LQ0525000

**TSCA:** TSCA 8(b) inventory: Formamide

**CI#:** Not available.

**Synonym:** Methanamide; Methanoic acid, amide; Formimidic acid; Carbamaldehyde

**Chemical Name:** Formamide

**Chemical Formula:** C-H3-N-O or H-C-O-N-H2

**Contact Information:**

**Sciencelab.com, Inc.**
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

**CHEMTREC (24HR Emergency Telephone), call:** 1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

## Section 2: Composition and Information on Ingredients

**Composition:**

| Name | CAS # | % by Weight |
|---|---|---|
| Formamide, Deionized | 75-12-7 | 100 |

**Toxicological Data on Ingredients:** Formamide, Deionized: ORAL (LD50): Acute: 5577 mg/kg [Rat]. 3150 mg/kg [Mouse]. DERMAL (LD50): Acute: 17000 mg/kg [Rabbit]. VAPOR (LC50): Acute: >3900 ppm 6 hours [Rat].

## Section 3: Hazards Identification

**Potential Acute Health Effects:**
Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of ingestion, of inhalation.

**Potential Chronic Health Effects:**
Hazardous in case of ingestion, of inhalation. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, kidneys, liver, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

## Section 4: First Aid Measures

**Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

**Skin Contact:**
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Serious Skin Contact:**
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation:**
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Serious Inhalation:** Not available.

**Ingestion:**
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** May be combustible at high temperature.

**Auto-Ignition Temperature:** 499°C (930.2°F)

**Flash Points:** CLOSED CUP: 150°C (302°F). OPEN CUP: 154.44°C (310°F).

**Flammable Limits:** Not available.

**Products of Combustion:** These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).

**Fire Hazards in Presence of Various Substances:**
Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

**Explosion Hazards in Presence of Various Substances:**
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Special Remarks on Fire Hazards:** COMBUSTIBLE.

**Special Remarks on Explosion Hazards:** Not available.

## Section 6: Accidental Release Measures

**Small Spill:**
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:**
Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

**Precautions:**
Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection:**
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:**
TWA: 10 (ppm) from ACGIH (TLV) [United States] SKIN TWA: 10 (ppm) [Canada (British Columbia)] SKIN TWA: 10 from NIOSH [United States] SKIN TWA: 15 (mg/m3) from NIOSH [United States] SKIN TWA: 20 STEL: 30 (ppm) [Canada (Alberta)] SKIN TWA: 37 STEL: 55 (mg/m3) [Canada (Alberta)] SKIN TWA: 10 (ppm) [Canada (Ontario)] SKIN TWA: 15 (mg/m3) [Canada (Ontario)] SKIN TWA: 10 (ppm) [Canada (Quebec)] SKIN TWA: 18 (mg/m3) [Canada (Quebec)] SKIN3 Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid. (Slightly Viscous liquid.)

**Odor:** Ammoniacal. Odorless. (Slight.)

**Taste:** Not available.

**Molecular Weight:** 45.04 g/mole

**Color:** Colorless.

**pH (1% soln/water):** Not available.

**Boiling Point:** 210.5°C (410.9°F)

**Melting Point:** 2.55°C (36.6°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 1.1334 (Water = 1)

**Vapor Pressure:** 0 kPa (@ 25°C)

**Vapor Density:** 1.55 (Air = 1)

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** The product is more soluble in water; log(oil/water) = -1.5

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water, diethyl ether, acetone.

**Solubility:**
Soluble in cold water, hot water, diethyl ether, acetone. Soluble in alcohol. Insoluble in ethanol. Miscible in petroleum, chloroform, acetic acid, phenol, methanol, ethylene glycol, dioxane. Dissolves casein, glucose, zein, tannins, starch, lignin, polyvinyl alcohol, cellulose, acetate, nylon, chlorides of copper, lead, zinc, tin, iron, cobalt, aluminum, nickel, the acetates of alkali metals, some inorganic sulfates, and nitrates.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excess heat, incompatible materials, moisture

**Incompatibility with various substances:** Reactive with oxidizing agents, acids, alkalis.

**Corrosivity:** Not available.

**Special Remarks on Reactivity:**
Hygroscopic; keep container tightly closed. Incompatible with iodine, pyridine, sulfur trioxide, copper, brass, lead, acids, bases,

**Special Remarks on Corrosivity:** Attacks copper, brass and lead

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Absorbed through skin. Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:**
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 3150 mg/kg [Mouse]. Acute dermal toxicity (LD50): 17000 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): >3900 6 hours [Rat].

**Chronic Effects on Humans:** May cause damage to the following organs: blood, kidneys, liver, central nervous system (CNS).

**Other Toxic Effects on Humans:**
Hazardous in case of skin contact (irritant). Slightly hazardous in case of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:**
May cause adverse reproductive effects and birth defects(teratogenic). May affect genetic material (mutagenic)

**Special Remarks on other Toxic Effects on Humans:**
Acute Potential Health Effects: Skin: It is midly to moderately irritating to skin. It may cause skin rash. It may be absorbed through the skin and cause systemic effects similar to that of ingestion. Eyes: It is moderately to severly irritating to eyes. Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness, and coma and other CNS symptoms similar to ingestion. It may cause respiratory tract (nose, throat) irritation. Moderately irritating to mucous membranes. Symptoms may include coughing, shortness of breath. Ingestion: May cause gastritis with nausea, vomiting, adbominal pain. May affect behavior, and cause central nervous system effects such as seizures, fatigue, dizziness, ataxia, somnolence. It may affect affect the urinary system, l Chronic Potential Health Effects: Inhalation: Prolonged or repeated inhalation may affect the blood (polycythemia, suppressed platelet, and lymphocyte counts), metabolism (marked weight loss, malnutrition) Ingestion: Prolonged or repeated ingestion may cause liver damage and affect the urinary system (Proteinuria), and brain Skin: Prolonged or repeated absorption by the skin may affect the blood.

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not applicable.

**Special Provisions for Transport:** Not applicable.

## Section 15: Other Regulatory Information

**Federal and State Regulations:**
Illinois toxic substances disclosure to employee act: Formamide Rhode Island RTK hazardous substances: Formamide Pennsylvania RTK: Formamide Minnesota: Formamide Massachusetts RTK: Formamide Massachusetts spill list: Formamide New Jersey: Formamide TSCA 8(b) inventory: Formamide TSCA 8(a) PAIR: Formamide TSCA 8(d) H and S data reporting: Formamide: Effective date: 4/29/83; Sunset Date: 4/29/93

**Other Regulations:**
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:**

**WHMIS (Canada):** CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

**DSCL (EEC):**
R61- May cause harm to the unborn child. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S53- Avoid exposure - obtain special instructions before use.

**HMIS (U.S.A.):**

**Health Hazard:** 2

**Fire Hazard:** 1

**Reactivity:** 0

**Personal Protection:** h

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

**Health:** 2

**Flammability:** 1

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

## Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

**Created:** 10/10/2005 08:38 PM

**Last Updated:** 11/06/2008 12:00 PM

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