

## Formamide-N,N-d<sub>2</sub>

### Section 1. Chemical product and company identifications

**Product code:** D-0939  
**Chemical formula:** CHD<sub>2</sub>NO  
**CAS:** 35645-04-6  
**CAS (unlabelled):** 75-12-7  
**Synonyms:** Methanamide, Formic Amide

**Supplier / Manufacturer:**

**C/D/N Isotopes Inc.**  
88 Leacock Street  
Pointe-Claire (Québec) H9R 1H1  
Phone: 514-697-6254  
Toll-Free (Canada & USA): 1-800-565-4696  
Fax: 514-697-6148  
Website: www.cdnisotopes.com

**In case of emergency:**

**TOXYSCAN HOTLINE: 1-855-780-0599**

### Section 2. Hazards identifications

**Physical state:** Liquid  
**Warning:** Suspected of causing cancer.  
**Routes of entry:** Inhalation, ingestion, skin and eyes

**GHS (Globally Harmonized System of Classification and Labelling of Chemicals):**

**GHS Classification:**

- Carcinogenicity (Category 2)
- Reproductive toxicity (Category 1B)
- Specific target organ toxicity - repeated exposure, Oral (Category 2), Blood

**GHS Label elements:**

- Pictograms: 
- Signal word: Danger

**Hazards statement:**

- H351 Suspected of causing cancer.
- H360 May damage fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

**Precautionary statement:**

- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P318 IF exposed or concerned, get medical advice.

### Section 3. Composition and information on ingredients

<u>Name</u>	<u>CAS</u>	<u>Concentration %</u>
Formamide-N,N-d <sub>2</sub>	35645-04-6	> 98

### Section 4. First aid measures

**Eye contact:** Flush eyes with water as a precaution.  
**Skin contact:** Wash off with soap and plenty of water. Consult a physician.  
**Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.  
**Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.  
**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

## **Section 5. Firefighting measures**

**Flammability of the product:** Combustible at high temperature.

**Lower explosion limit:** 2.7 Vol%

**Upper explosion limit:** 19 Vol%

**Auto-ignition temperature:** 500 °C (932 °F)

**Flash point:** 175 °C (347 °F)

**Products of combustion:** Hazardous decomposition products formed under fire conditions: Carbon oxides, nitrogen oxides.

**Firefighting media and instructions:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

## **Section 6. Accidental release measures**

**Personal precautions:** Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

**Environmental precautions:** Do not let product enter drains.

**Methods for cleaning up:** Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

## **Section 7. Handling and storage**

**Handling:** Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Provide appropriate exhaust ventilation.

**Storage:** Store at room temperature. Adequate ventilation. Protect from moisture.

## **Section 8. Exposure Controls, Personal Protections**

**Engineering controls:** Use mechanical exhaust or laboratory fumehood to avoid exposure.

**Eyes:** Safety glasses with side-shields conforming to NIOSH (US) or EN 166 (EU).

**Respiratory:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US).

**Hands:** Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Skin/body:** Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

## **Section 9. Physical and chemical properties (unlabelled)**

**Molecular weight:** 45.04 g/mol

**Physical status:** Liquid

**Color:** Colorless to yellow

**Odour:** Ammonia odor

**Density:** 1.134 g/cm<sup>3</sup>

**Melting point:** 2 - 3 °C (36 - 37 °F)

**Boiling point:** 210 °C (410 °F)

**Vapour pressure:** 0.08 hPa (0.06 mmHg) at 20 °C (68 °F)

**Vapour density:** 1.56 (Air = 1)

**Partition coefficient (octanol/water):** log Pow: -1.51

**Water solubility:** Completely miscible

## **Section 10. Stability and reactivity**

**Stability and reactivity:** Stable under recommended storage conditions.

**Incompatibility:** Acids, bases, strong oxidizing agents.

**Products of combustion:** Hazardous decomposition products formed under fire conditions: Carbon oxides, nitrogen oxides.

**Reactivity conditions:** No data available.

## **Section 11. Toxicological information (unlabelled)**

**Toxicological data:** Formamide

### **Information on ingredients:**

<b><u>Name</u></b>	<b><u>CAS</u></b>	<b><u>LD<sub>50</sub></u></b>	<b><u>LC<sub>50</sub></u></b>
Formamide	75-12-7	Oral - Rat - 5,577 mg/kg Dermal - Rabbit - 17,000 mg/kg	Inhalation - Rat - 6 h - >3,900 ppm

### **Potential acute effects**

- **Eyes:** May cause eye irritation.
- **Skin:** May be harmful if absorbed through skin. May cause skin irritation.
- **Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.
- **Ingestion:** May be harmful if swallowed.

### **Potential chronic effects**

- **Carcinogenic effects:** Suspected human carcinogens. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- **Mutagenic effects:** Genotoxicity in vitro - Ames test - S. typhimurium - with and without metabolic activation - negative. Genotoxicity in vivo - Mouse - male and female - negative.
- **Teratogenic effects:** Developmental Toxicity - Rat - Skin. Effects on Embryo or Fetus: Fetal death. Presumed human reproductive toxicant.
- **Medical conditions aggravated by overexposure:** May cause damage to organs through prolonged or repeated exposure.

## **Section 12. Ecological information**

### **Ecological data:**

<b><u>Name</u></b>	<b><u>Results</u></b>	<b><u>Species</u></b>	<b><u>Period</u></b>
Formamide	6,569 mg/l LC50 > 500 mg/l EC50 > 500 mg/l EC50	Leuciscus idus Daphnia magna Desmodesmus subspicatus	96 h 48 h 72 h

**Effects on environment:** No data available.

**Mobility:** No data available.

**Environmental precautions:** No data available.

**Persistence and degradability:** Aerobic. Result: 99 % - Readily biodegradable. Method: OECD Test guideline 301A.

**Bioaccumulative potential:** No data available.

## **Section 13. Disposal considerations**

**Waste disposal:** Contact a licensed professional waste disposal service to dispose of this material.

## **Section 14. Transportation information**

### **Classification DOT/IMDG/IATA label:**

**Shipping name:** Not dangerous goods

**UN number:** None

**Class:** None

**Packaging group:** None

**Additional information:** None

## **Section 15. Regulatory information**

### **UNITED STATES: NFPA classification**



Health: 1  
Flammable: 1  
Reactivity: 0  
Special conditions: None

**Legend: 4: Severe, 3: High, 2: Moderate, 1: Slightly, 0: Not hazardous**

### **U.S. Federal regulations:**

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

**SARA 302/304/311/312 extremely hazardous substances:** Not Listed

**SARA 302/304 emergency planning and notification:** Not Listed

**SARA 302/304/311/312 hazardous chemicals:** Not Listed

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard: Listed

**CWA (Clean Water Act) 307:** Not Listed

**CWA (Clean Water Act) 311:** Not Listed

**CAA (Clean Air Act) 112 accidental release prevention:** Not Listed

**CAA (Clean Air Act) 112 regulated flammable substances:** Not Listed

**CAA (Clean Air Act) 112 regulated toxic substances:** Not Listed

### **State regulations:**

**DEA List I Chemicals (Precursor Chemicals):** Not Listed

**DEA List II Chemicals (Essential Chemicals):** Not Listed

**Substances in Massachusetts:** Listed

**Dangerous substances in New Jersey:** Listed

**New York – Dangerous substances with acute effects:** Not Listed

**Dangerous substances in Pennsylvania – right to know:** Listed

### **WHMIS (Canada):**



D2A - Very toxic material causing other toxic effects

## **Section 16. Additional information**

### **References:**

- ANSI Z400.1, MSDS Standard, 2001.
- Manufacturer's Material Safety Data Sheet.
- 29CFR Part1910.1200 OSHA MSDS Requirements.
- 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. -Canada
- Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List".
- Federal act on the controlled products
- Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2002.
- Toxicological repertory, HSC.
- Material safety data sheet from the components.

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**Elaborated by:** Toxyscan Inc., 1-866-780-0599

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