

## 1 Identification

- **Product identifier**
- **Trade name:** Formamide
- **Article number:** A0871
- **CAS Number:**  
75-12-7
- **EC number:**  
200-842-0
- **Index number:**  
616-052-00-8
- **Application of the substance / the mixture**  
Molecular biology  
Chemical analytics  
Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
AppliChem GmbH  
Ottoweg 4  
D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

Tel.: +49 (0)6151 93570  
Fax.: +49 (0)6151 935711  
msds@applichem.com

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Carc. 2 H351 Suspected of causing cancer.  
Repr. 1B H360 May damage fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
- **Label elements**
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**  
  
GHS08
- **Signal word** Danger
- **Hazard statements**  
H351 Suspected of causing cancer.  
H360 May damage fertility or the unborn child.  
H373 May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**  
P201 Obtain special instructions before use.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P314 Get medical advice/attention if you feel unwell.

(Contd. on page 2)

US

Trade name: Formamide

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0  
Fire = 1  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = \*0  
Fire = 1  
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
75-12-7 Formamide
- **Identification number(s)**
- **EC number:** 200-842-0
- **Index number:** 616-052-00-8

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air or oxygen; call for doctor.
- **After skin contact:**  
Wash with water and acidic soap.  
Seek medical treatment.
- **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Seek medical treatment.
- **After swallowing:**  
Rinse out mouth.  
Seek medical treatment.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.  
In case of fire, the following can be released:  
Nitrogen oxides (NO<sub>x</sub>)  
Hydrogen cyanide (HCN)

(Contd. on page 3)

Trade name: Formamide

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (AppliSorb).  
Dispose contaminated material as waste according to item 13.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
  - **PAC-1:** 30 ppm
  - **PAC-2:** 110 ppm
  - **PAC-3:** 650 ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Open and handle receptacle with care.
- **Information about protection against explosions and fires:**  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Recommended storage temperature:** +15 - +25 °C
- **Storage class:** 6.1 D
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

### 75-12-7 Formamide

|     |  |
|-----|--|
| REL | Long-term value: 15 mg/m <sup>3</sup> , 10 ppm<br>Skin |
| TLV | Long-term value: 18 mg/m <sup>3</sup> , 10 ppm<br>Skin |

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.

(Contd. on page 4)

Trade name: Formamide

(Contd. of page 3)

- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.  
Filter ABEK

- **Protection of hands:**



Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **For the permanent contact gloves made of the following materials are suitable:**  
Recommended thickness of the material:  $\geq 0.6$  mm  
Natural rubber, NR  
Value for the permeation: Level  $\geq 480$  min
- **As protection from splashes gloves made of the following materials are suitable:**  
Recommended thickness of the material:  $\geq 0.11$  mm  
Natural rubber, NR  
Value for the permeation: Level  $\geq 240$  min
- **Eye protection:** Safety glasses

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:** Fluid  
**Color:** Colorless  
**Odor:** Like ammoniac

- **pH-value:** 4-10

- **Change in condition**

**Melting point/Melting range:** 2-3 °C (36-37 °F)  
**Boiling point/Boiling range:** 210 °C (410 °F)

- **Flash point:** 175 °C (347 °F)

- **Ignition temperature:** 500 °C (932 °F)

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

**Lower:** 2.7 Vol %  
**Upper:** 19 Vol %

- **Vapor pressure at 20 °C (68 °F):** 0.08 hPa

- **Density at 20 °C (68 °F):** 1.13 g/cm<sup>3</sup> (9.43 lbs/gal)

- **Solubility in / Miscibility with**

**Water:** Fully miscible.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

**Dynamic:** Not determined.  
**Kinematic:** Not determined.

(Contd. on page 5)

Trade name: Formamide

(Contd. of page 4)

- **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No dangerous reactions known.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Heating
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** oxidizing agent
- **Hazardous decomposition products:** In the event of fire: See chapter 5

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

| · <b>Components</b> |          | <b>Type</b> | <b>Value</b>          | <b>Species</b> |
|---------------------|----------|-------------|-----------------------|----------------|
| Oral                | LD50     |             | 5,325 mg/kg (rat)     |                |
| Dermal              | LD50     |             | >3,000 mg/kg (rat)    |                |
|                     |          |             | 17,000 mg/kg (rabbit) |                |
| Inhalative          | LC50/4 h |             | >21 mg/l (rat)        |                |

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**

| · <b>Type of test</b> | <b>Effective concentration</b>            | <b>Method</b> | <b>Assessment</b> |
|-----------------------|---|---------------|-------------------|
| EC50/72 h             | >500 mg/l (Algae, Growth inhibition test) |               |                   |
| EC50/48 h             | >500 mg/l (daphnia magna)                 |               |                   |
| LC50/96 h             | 6,569 mg/l (fish)                         |               |                   |

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Water hazard class 1 (Assessment by list): slightly hazardous for water  
Do not allow to enter waters, waste water, or soil.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 6)

Trade name: Formamide

(Contd. of page 5)

- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

|  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | Void            |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | Void            |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   |                 |
| · <b>Class</b>   | Void            |
| · <b>Packing group</b>   |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  | Void            |
| · <b>Environmental hazards:</b>  |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | Void            |

### \* 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** Substance is listed.
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogeny categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 7)

Trade name: Formamide

(Contd. of page 6)

· Hazard pictograms



GHS08

· Signal word Danger

· Hazard statements

H351 Suspected of causing cancer.

H360 May damage fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements

P201 Obtain special instructions before use.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Dept. Compliance

· Contact: Mr. Th. Stöckle

· Date of preparation / last revision 07/15/2017 / 2

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Carc. 2: Carcinogenicity – Category 2

Repr. 1B: Reproductive toxicity – Category 1B

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· \* Data compared to the previous version altered.