

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Formamide

Product Number : F9037  
Brand : Sigma

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +18003255832  
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Emergency Phone # : (314) 776-6555

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

#### OSHA Hazards

Target Organ Effect, Irritant, Teratogen, Reproductive hazard, Mutagen

#### Target Organs

Blood, Central nervous system, Liver, Kidney

#### GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)

H318 Causes serious eye damage.  
H331 Toxic if inhaled.  
H340 May cause genetic defects.  
H360 May damage fertility or the unborn child.

Precautionary statement(s)

P201 Obtain special instructions before use.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/eye protection/face protection.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P311 Call a POISON CENTER or doctor/physician.

#### HMIS Classification

Health hazard: 2  
Chronic Health Hazard: \*  
Flammability: 1  
Physical hazards: 1

#### NFPA Rating

Health hazard: 2  
Fire: 1  
Reactivity Hazard: 1

#### Potential Health Effects

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

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Amide C<sub>1</sub>  
Formic amide

Formula : CH<sub>3</sub>NO

Molecular Weight : 45.04 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Formamide</b>			
75-12-7	200-842-0	616-052-00-8	-

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### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIRE-FIGHTING MEASURES

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

#### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### Methods and materials for containment and cleaning up

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

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### 7. HANDLING AND STORAGE

#### Precautions for safe handling

Avoid inhalation of vapour or mist.  
Normal measures for preventive fire protection.

#### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature: 2 - 8 °C

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Formamide	75-12-7	TWA	10 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Skin & eye irritation Liver & kidney damage Danger of cutaneous absorption				
		TWA	20 ppm 30 mg/m <sup>3</sup>	1989-01-19	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	30 ppm 45 mg/m <sup>3</sup>	1989-01-19	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

### Personal protective equipment

#### Respiratory protection

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) or CEN (EU).

#### Hand protection

Handle with gloves.

#### Eye protection

Safety glasses with side-shields conforming to EN166

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	liquid, clear
Colour	colourless

### Safety data

pH	7.1 at 23 g/l
Melting point	2 - 3 °C (36 - 37 °F)
Boiling point	210 °C (410 °F)
Flash point	150 °C (302 °F) - closed cup
Ignition temperature	500 °C (932 °F)
Lower explosion limit	2.7 %(V)
Upper explosion limit	19 %(V)
Vapour pressure	0.11 hPa (0.08 mmHg) at 20 °C (68 °F) 40.00 hPa (30.00 mmHg) at 129 °C (264 °F) 1.29 hPa (0.97 mmHg) at 70 °C (158 °F)
Density	1.134 g/mL at 25 °C (77 °F)
Water solubility	completely miscible
Partition coefficient:	log Pow: -1.51

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Conditions to avoid

no data available

### Materials to avoid

acids, Bases, Oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LD50 Oral - rat - 5,577 mg/kg

LC50 Inhalation - rat - 6 h - 3900 ppm

LD50 Dermal - rabbit - 17,000 mg/kg

### Skin corrosion/irritation

#### Serious eye damage/eye irritation

Eyes - rabbit - Severe eye irritation

### Respiratory or skin sensitization

Did not cause sensitization on laboratory animals.

### Germ cell mutagenicity

In vivo tests showed mutagenic effects

### Carcinogenicity

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.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Reproductive toxicity

May cause congenital malformation in the fetus.

Presumed human reproductive toxicant

Reproductive toxicity - rat - Oral

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

May cause reproductive disorders.

Developmental Toxicity - rat - Skin

Effects on Embryo or Fetus: Fetal death.

### Specific target organ toxicity - single exposure (GHS)

no data available

### Specific target organ toxicity - repeated exposure (GHS)

no data available

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.

**Signs and Symptoms of Exposure**

Gastrointestinal disturbance, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**

RTECS: LQ0525000

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**12. ECOLOGICAL INFORMATION****Toxicity**

Toxicity to fish	LC50 - <i>Leuciscus idus</i> (Golden orfe) - > 4,600 - < 9,300 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - <i>Daphnia magna</i> (Water flea) - > 500 mg/l - 48 h
Toxicity to algae	- <i>Desmodesmus subspicatus</i> (green algae) - 1,141 mg/l - 72 h
Toxicity to bacteria	- <i>Pseudomonas putida</i> - > 10,000 mg/l - 17 h

**Persistence and degradability**

Readily biodegradable, according to appropriate OECD test.

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

Adsorbed organic bound halogens (AOX)	Remarks: Product does not contain any organic halogens.
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no data available

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**13. DISPOSAL CONSIDERATIONS****Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**15. REGULATORY INFORMATION****OSHA Hazards**

Target Organ Effect, Irritant, Teratogen, Reproductive hazard, Mutagen

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

Formamide

CAS-No.  
75-12-7Revision Date  
2007-03-01**Pennsylvania Right To Know Components**

Formamide

CAS-No.  
75-12-7Revision Date  
2007-03-01**New Jersey Right To Know Components**

Formamide

CAS-No.  
75-12-7Revision Date  
2007-03-01**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION****Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.