

Issue Date 20-Apr-2015

Revision Date 01-Sep-2015

Version 3

**1. IDENTIFICATION**

**Product identifier**

**Product Name** Formamide

**Other means of identification**

**Product Code** 3310, 3330  
**UN/ID no.** Not Regulated  
**Synonyms** Methanamide; carbamaldehyde

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Manufacturer Address**

Harrell Industries, Inc.  
 2495 Commerce Drive  
 Rock Hill, SC 29730

[www.harrellindustries.com](http://www.harrellindustries.com)

**Emergency telephone number**

**Company Phone Number** 803-327-6335  
**Fax Number** 803-327-7808  
**24 Hour Emergency Phone Number** 800 633-8253 (PERS)

**2. HAZARDS IDENTIFICATION**

**Classification**

**OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)


Reproductive toxicity	Category 1B
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**Label elements**

**Emergency Overview**

**Danger**

**Hazard statements**  
 May damage fertility or the unborn child



Warning! Harmful if swallowed, inhaled, or absorbed through skin. Causes irritation to skin, eyes and respiratory tract. Affects the central nervous system. May affect the reproductive system.

**Appearance** Clear, colorless liquid      **Physical state** liquid      **Odor** Faint ammonia odor

**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
 Causes irritation, redness and pain.  
 Causes irritation to skin. Symptoms include redness, itching and pain.  
 May be absorbed through the skin. Symptoms parallel to ingestion.  
 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.  
 Causes irritation to the gastrointestinal tract. Affects the central nervous system. May cause dizziness, headache, nausea, vomiting, abdominal pain, and unconsciousness. May affect the reproductive system.

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

May be harmful if inhaled

Unknown acute toxicity                      0.4% of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**  
**Synonyms**                      Methanamide; carbamaldehyde.  
**Formula**                         CH<sub>3</sub>-N-O

Chemical Name	CAS No.	Weight-%
Formamide	75-12-7	100.0

### 4. FIRST AID MEASURES

**Description of first aid measures**

**Eye contact**                      Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician if irritation occurs.

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

**Inhalation**                         Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

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

**Most important symptoms and effects, both acute and delayed**

**Symptoms**                         No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, dry chemical, alcohol foam, or carbon dioxide. Water or foam may cause frothing.

**Unsuitable extinguishing media** Caution: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

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

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal equipment.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional ecological information.

**Methods and material for containment and cleaning up**

**Methods for containment** Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb and place into a chemical waste container.

**Methods for cleaning up** Absorb with inert materials (e.g., vermiculite, dry sand, earth). Do not use combustible materials, such as saw dust. Do not flush to sewer!!

**7. HANDLING AND STORAGE****Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep container tightly closed in a dry and well-ventilated place. Protect against physical damage. Isolate from incompatible materials. Containers of this material may be hazardous when empty since they retain residues (vapors, liquid); observe all warnings listed for the product.

**Incompatible materials** Acids, alkaline, iodine, pyridine, and sulfur trioxide. Copper, brass, lead and rubber are attacked by formamide.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Formamide 75-12-7	TWA: 10 ppm S*	(vacated) TWA: 20 ppm (vacated) TWA: 30 mg/m <sup>3</sup> (vacated) STEL: 30 ppm (vacated) STEL: 45 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 15 mg/m <sup>3</sup>

**Appropriate engineering controls**

**Engineering Controls**                      Showers  
 Eyewash stations  
 Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**                      Use chemical safety goggles and/or full face shield. Maintain eye wash fountain and quick-drench facilities in work area.

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

**Respiratory protection**                      If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations**                      Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Physical state</b>	liquid	<b>Odor</b>	Faint ammonia odor
<b>Appearance</b>	Clear, colorless liquid	<b>Odor threshold</b>	No information available
<b>Color</b>	clear colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.1	
Melting point / freezing point	2-3 °C / 36-37 °F	
Boiling point / boiling range	210 °C / 410 °F	
Flash point	154 °C / 309 °F	
Evaporation rate	<1	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	1 @70.5C(158F)	
Vapor density	1.55	
Relative density	No information available	
Water solubility	Infinitely soluble	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

**Other Information**

**Softening point**                                      No information available

<b>Molecular weight</b>	45.04
<b>VOC Content (%)</b>	No information available
<b>Density</b>	1.13@20C/4C
<b>Bulk density</b>	No information available

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Stable under ordinary conditions of use and storage.

### Possibility of Hazardous Reactions

None under normal processing.

**Hazardous polymerization** Will not occur.

### Conditions to avoid

Heat, flames, ignition sources and incompatibles.

### Incompatible materials

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

### Hazardous Decomposition Products

Burning may produce ammonia, carbon monoxide, carbon dioxide, nitrogen oxides. At boiling point: ammonia, carbon monoxide, and hydrogen cyanide.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Formamide 75-12-7	> 5000 mg/kg ( Rat )	-	> 3900 ppm ( Rat ) 6 h

### Information on toxicological effects

**Symptoms** No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Carcinogenicity** This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP

### Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

When released into the soil, this material may be biodegrade to a moderate extent. When released into the soil, this material is expected to leach into the soil, this material is expected to leach into groundwater. This material has a bioconcentration factor of less than 100. This material is expected to significantly bio accumulate. When released into the air, this material is expected to be readily degraded by reaction with photo chemically produced hydroxyl radicals. When released into the air this material is expected to have a half-life of less than 1 day.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Formamide 75-12-7	500: 72 h Desmodesmus subspicatus mg/L EC50 500: 96 h Desmodesmus subspicatus mg/L EC50	9135: 96 h Brachydanio rerio mg/L LC50 static 4600 - 9300: 96 h Leuciscus idus mg/L LC50 static	500: 48 h Daphnia magna mg/L EC50

Persistence and degradabilityBioaccumulation

Chemical Name	Partition coefficient
Formamide 75-12-7	-0.82

Other adverse effects No information available

### 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility.

**Contaminated packaging** Do not reuse container.

### 14. TRANSPORT INFORMATION

DOT Not regulated  
UN/ID no. Not Regulated

### 15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal RegulationsSARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No

Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated by state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Formamide 75-12-7	X	X	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<b>NFPA</b>	Health hazards 2	Flammability 1	Instability 0	Physical and Chemical Properties -
<b>HMIS</b>	Health hazards 0	Flammability 1	Physical hazards 0	Personal protection X

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**Revision Note**

No information available

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**