



SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 05/15/2014

Version 1.1

SECTION 1. Identification

Product identifier

Product number	FX0420
Product name	Formamide GR ACS
CAS-No.	75-12-7

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for analysis
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Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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SECTION 2. Hazards identification

GHS Classification

Reproductive toxicity, Category 1B, H360D

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word

Danger

Hazard Statements

H360D May damage the unborn child.

Precautionary Statements

P201 Obtain special instructions before use.

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

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Restricted to professional users.

OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature	amides	
Formula	HCONH ₂	CH ₃ NO (Hill)
Molar mass	45.04 g/mol	

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

Formamide (>= 90 % - <= 100 %)

75-12-7

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air. Call in physician.

Skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

Eye contact

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

Ingestion

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

ataxia (impaired locomotor coordination)

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

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Suitable extinguishing media

Water, Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapors possible in the event of fire.

Fire may cause evolution of:

Hydrogen cyanide (hydrocyanic acid), nitrogen oxides

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Suppress (knock down) gases/vapors/mists with a water spray jet.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Conditions for safe storage, including any incompatibilities

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Refrigerator

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SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
<i>Formamide 75-12-7</i>			
ACGIH	Time Weighted Average (TWA): Skin designation:	10 ppm	Can be absorbed through the skin.
NIOSH/GUIDE	Recommended exposure limit (REL): Skin designation:	10 ppm 15 mg/m ³	Can be absorbed through the skin.
Z1A	Time Weighted Average (TWA): Short Term Exposure Limit (STEL):	20 ppm 30 mg/m ³ 30 ppm 45 mg/m ³	

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Application of skin- protective barrier cream recommended.
Wash hands after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state

liquid

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Color	colorless
Odor	ammoniacal
Odor Threshold	No information available.
pH	8 - 10 at 200 g/l 68 °F (20 °C)
Melting point	2 °C
Boiling point/boiling range	410 °F (210 °C) at 1,013 hPa
Flash point	347 °F (175 °C) Method: open cup
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	2.7 %(V)
Upper explosion limit	19.0 %(V)
Vapor pressure	0.32 hPa at 122 °F (50 °C) 0.08 hPa at 68 °F (20 °C)
Relative vapor density	1.56
Density	1.13 g/cm ³ at 68 °F (20 °C)
Relative density	No information available.
Water solubility	at 68 °F (20 °C) soluble
Partition coefficient: n-octanol/water	log Pow: -0.82 (25 °C) OECD Test Guideline 107 Bioaccumulation is not expected.
Autoignition temperature	No information available.
Decomposition temperature	> 356 °F (> 180 °C)

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Viscosity, dynamic	3.75 mPa.s at 68 °F (20 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	932 °F (500 °C) Method: DIN 51794

SECTION 10. Stability and reactivity

Reactivity

Forms explosive mixtures with air on intense heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Chemical stability

heat-sensitive

Possibility of hazardous reactions

Exothermic reaction with:

Oxidizing agents, bases

Risk of explosion with:

furfuryl alcohol, Oxides of phosphorus, hydrogen peroxide

iodine, with, pyridine, and, Sulfur trioxide

A risk of explosion and/or of toxic gas formation exists with the following substances:

water separating agents

Possible formation of:

Hydrogen cyanide (hydrocyanic acid)

Conditions to avoid

Strong heating.

Incompatible materials

no information available

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact

Target Organs

reproductive system

Eyes

Skin

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Respiratory system
Central nervous system
Blood
Kidney
Gastro-intestinal system
Mucous membranes
Liver

Acute oral toxicity

LD50 rat: ca. 5,325 mg/kg
OECD Test Guideline 401

Acute inhalation toxicity

LC50 rat: > 21 mg/l; 4 h
OECD Test Guideline 403

Acute dermal toxicity

LD50 rabbit: 17,000 mg/kg
(External MSDS)

absorption

Skin irritation

rabbit
Result: No irritation
(IUCLID)

Eye irritation

rabbit
Result: No eye irritation
(IUCLID)

rabbit

Result: slight irritation
OECD Test Guideline 405

Sensitization

In animal experiments: guinea pig
Result: negative
(IUCLID)

Genotoxicity in vivo

Mutagenicity (mammal cell test): chromosome aberration.
mouse
Exposure time: 90-day
Result: negative
Method: OECD Test Guideline 474

Mutagenicity (mammal cell test): micronucleus.

mouse
Result: positive
Method: OECD Test Guideline 474

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Genotoxicity in vitro

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

Carcinogenicity

mouse

Method: OECD Test Guideline 451

rat

Method: OECD Test Guideline 451

Did not show carcinogenic effects in animal experiments.

Teratogenicity

rabbit

Number of exposures: daily

Method: OECD Test Guideline 414

rat

Number of exposures: daily

Method: OECD Test Guideline 414

CMR effects

Teratogenicity:

May damage the unborn child.

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

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

NTP

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

ACGIH

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

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Further information

Possible effect after contact with substance:

ataxia (impaired locomotor coordination)

Absorption may result in damage of the following:

Liver, Kidney

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

LC50 *Leuciscus idus* (Golden orfe): 4,600 - 9,300 mg/l; 96 h

DIN 38412 part 15

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): > 500 mg/l; 48 h (IUCLID)

Toxicity to algae

static test EC50 *Desmodesmus subspicatus* (green algae): > 500 mg/l; 96 h

DIN 38412

Toxicity to bacteria

EC50 *Pseudomonas putida*: > 10,000 mg/l; 17 h (IUCLID)

static test EC50 activated sludge: > 1,000 mg/l; 30 min

OECD Test Guideline 209

Persistence and degradability

Biodegradability

> 70 %; 28 d

OECD Test Guideline 302B

Easily eliminable.

> 30 %; 14 d

MITI test

(IUCLID)

Not readily biodegradable.

99 %; 28 d; aerobic

OECD Test Guideline 301A

Readily biodegradable.

Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: -0.82 (25 °C)

OECD Test Guideline 107

Bioaccumulation is not expected.

Mobility in soil

Distribution among environmental compartments

log Koc: 1.101

(calculated)

(IUCLID) Mobile in soils

Additional ecological information

When discharged properly, no impairments in the function of adapted biological wastewater treatment plants are to be expected.

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Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)

Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

United States of America

OSHA Hazards

Teratogen

Target organ effects

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

Chronic Health Hazard

SARA 313

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 302

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

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Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Ingredients

Formamide

Pennsylvania Right To Know

Ingredients

Formamide

New Jersey Right To Know

Ingredients

Formamide

California Prop 65 Components

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

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

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

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Full text of H-Statements referred to under sections 2 and 3.

H360D May damage the unborn child.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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