

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 27.06.2019

Version 1.6

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Catalogue No.	D05185
Product code	4610-OP
Product name	OmniPur® Formamide Deionized
REACH Registration Number	01-2119496064-35-XXXX
CAS-No.	75-12-7

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

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).
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1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number

Please contact the regional Merck representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Carcinogenicity, Category 2, H351
Reproductive toxicity, Category 1B, H360FD
Specific target organ toxicity - repeated exposure, Category 2, Blood, Cardio-vascular system, H373

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

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H360FD May damage fertility. May damage the unborn child.

H351 Suspected of causing cancer.

H373 May cause damage to organs (Blood, Cardio-vascular system) through prolonged or repeated exposure.

Precautionary statements

Prevention

P201 Obtain special instructions before use.

Response

P314 Get medical advice/ attention if you feel unwell.

Restricted to professional users.

Reduced labelling (≤ 125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H360FD May damage fertility. May damage the unborn child.

H351 Suspected of causing cancer.

Precautionary statements

P201 Obtain special instructions before use.

Contains: Formamide

Index-No. 616-052-00-8

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

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Formula	HCONH ₂	CH ₃ NO (Hill)
Index-No.	616-052-00-8	
EC-No.	200-842-0	
Molar mass	45,04 g/mol	

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
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Formamide (<= 100 %)

75-12-7	01-2119496064-35-XXXX	Carcinogenicity, Category 2, H351 Reproductive toxicity, Category 1B, H360FD Specific target organ toxicity - repeated exposure, Category 2, H373
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For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Mixture

Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

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

4.2 Most important symptoms and effects, both acute and delayed

ataxia (impaired locomotor coordination)

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

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Combustible.
Vapours are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.
Fire may cause evolution of:
Hydrogen cyanide (hydrocyanic acid), nitrogen oxides, Ammonia

5.3 Advice for firefighters

Special protective equipment for firefighters

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

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 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 carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

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

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

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

Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures

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

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	natural latex
Glove thickness:	0,6 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 240 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 706 Lapren® (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment
protective clothing

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Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	ammoniacal
Odour Threshold	No information available.
pH	8 - 10 at 200 g/l 20 °C
Melting point	2 °C
Boiling point/boiling range	210 °C at 1.013 hPa
Flash point	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)
Vapour pressure	0,32 hPa at 50 °C 0,08 hPa at 20 °C
Relative vapour density	1,56

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Density	1,13 g/cm ³ at 20 °C
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	log Pow: -0,82 (25 °C) OECD Test Guideline 107 Bioaccumulation is not expected.
Auto-ignition temperature	No information available.
Decomposition temperature	> 180 °C
Viscosity, dynamic	3,75 mPa.s at 20 °C
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

Ignition temperature	500 °C Method: DIN 51794
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SECTION 10. Stability and reactivity

10.1 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.

10.2 Chemical stability

heat-sensitive

10.3 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, Sulphur 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)

10.4 Conditions to avoid

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Strong heating.

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 Rat: ca. 5.325 mg/kg
OECD Test Guideline 401

Acute inhalation toxicity

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

Acute dermal toxicity

LD50 Rat: > 3.000 mg/kg
(ECHA)

Skin irritation

Rabbit
Result: No skin irritation

(ECHA)

Eye irritation

Rabbit
Result: slight irritation
OECD Test Guideline 405

Sensitisation

In animal experiments: Guinea pig
Result: negative

(IUCLID)

Germ cell mutagenicity

Genotoxicity in vivo

In vivo micronucleus test

Mouse

male and female

Oral

Bone marrow

Exposure time: 90-day

Result: negative

Method: OECD Test Guideline 474

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In vivo micronucleus test
Mouse
male
Intraperitoneal injection
Bone marrow
Result: positive
Method: OECD Test Guideline 474

Genotoxicity in vitro
Ames test
Escherichia coli/Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

Carcinogenicity
Mouse
Number of exposures: daily
Method: OECD Test Guideline 451

Rat
Number of exposures: daily
Method: OECD Test Guideline 451

Reproductive toxicity
This information is not available.

Teratogenicity
This information is not available.

CMR effects
Teratogenicity:
May damage the unborn child.
Reproductive toxicity:
May damage fertility.

Carcinogenicity:
Suspected of causing cancer.

Specific target organ toxicity - single exposure
This information is not available.

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.
Target Organs: Blood, Cardio-vascular system

Repeated dose toxicity
Rat
male and female
Oral
90 d
daily
NOAEL: 40 - 80 mg/kg
OECD Test Guideline 408

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Subchronic toxicity

Rat
male and female
Oral
28 d
daily
NOAEL: 34 mg/kg
LOAEL: 113 mg/kg
OECD Test Guideline 407
Subacute toxicity

Rat
male and female
Dermal
90 d
daily
NOAEL: 100 mg/kg
LOAEL: 300 mg/kg
OECD Test Guideline 411
Subchronic toxicity

Rat
male
Inhalation
vapour
28 d
daily
NOAEL: 0,19 mg/kg
OECD Test Guideline 412
Subacute toxicity

Aspiration hazard

This information is not available.

11.2 Further information

Possible effect after contact with substance:
ataxia (impaired locomotor coordination)
Absorption may result in damage of the following:
Liver, Kidney
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity

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)

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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

12.2 Persistence and degradability

Biodegradability

99 %; 28 d; aerobic
OECD Test Guideline 301A
Readily biodegradable

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: -0,82 (25 °C)
OECD Test Guideline 107

Bioaccumulation is not expected.

12.4 Mobility in soil

Distribution among environmental compartments

log Koc: 1,101
(calculated)

(IUCLID) Mobile in soils

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information

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

Discharge into the environment must be avoided.

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SECTION 13. Disposal considerations

Waste treatment methods

Notice Directive on waste 2008/98/EC.

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Major Accident Hazard Legislation	SEVESO III Not applicable
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Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
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Regulation (EC) No 1005/2009 on substances not regulated that deplete the ozone layer

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Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
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Substances of very high concern (SVHC)	This product does contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 59 above the respective regulatory concentration limit of > 0.1 % (w/w).
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Contains: Formamide

National legislation

Storage class	6.1C
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15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

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

H351	Suspected of causing cancer.
H360FD	May damage fertility. May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

H351 Suspected of causing cancer.

H360 May damage fertility or the unborn child.

H373 May cause damage to organs (Blood, Cardio-vascular system) through prolonged or repeated exposure.

Precautionary statements

Prevention

P201 Obtain special instructions before use.

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Response
P314 Get medical advice/ attention if you feel unwell.

Further information

Restricted to professional users.

Contains: Formamide

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.

Regional representation

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The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.