

Revision: 26.03.2025

Formic acid 1 mol/l

Product code: AC15.01189

Page 1 of 11

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Formic acid 1 mol/l

UFI: PRGP-01RA-700H-0AEC

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

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

Company name: AnalytiChem Services, Unipessoal, Lda
Street: Rua de Júlio Dinis 676 7º
Place: N-4050-320 Porto
Telephone: +351 226002917
E-mail: info@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Internet: www.analytichem.com
Responsible Department: SDS service department

Supplier or manufacturer details

Company name: AnalytiChem Belgium NV
Street: Industriezone "De Arend" 2
Place: B-8210 Zedelgem
Telephone: +32 50 28 83 20
E-mail: info.be@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Responsible Department: AnalytiChem:
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

1.4. Emergency telephone number:

+44 20 3807 3798 (CHEMTREC)

Further Information

inapplicable, this product is a mixture REACH registration number see section 3

Revision: 26.03.2025

Formic acid 1 mol/l

Product code: AC15.01189

Page 2 of 11

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Skin Irrit. 2; H315
Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008**

Signal word: Warning

Pictograms:

**Hazard statements**

H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Mixtures in aqueous solution

Relevant ingredients

| CAS No | Chemical name | | | Quantity |
|---------|---|--------------|----------|-----------|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | | | |
| 64-18-6 | formic acid ... % | | | 2 - < 5 % |
| | 200-579-1 | 607-001-00-0 | | |
| | Flam. Liq. 3, Met. Corr. 1, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1A, Eye Dam. 1; H226 H290 H331 H302 H314 H318 EUH071 | | | |

Full text of H and EUH statements: see section 16.

Revision: 26.03.2025

Formic acid 1 mol/l

Product code: AC15.01189

Page 3 of 11

Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|--|-----------|-------------------|-----------|
| Specific Conc. Limits, M-factors and ATE | | | |
| 64-18-6 | 200-579-1 | formic acid ... % | 2 - < 5 % |
| inhalation: ATE 7,4 mg/l (vapours); dermal: LD50 = > 2000 mg/kg; oral: ATE 500 mg/kg Flam. Liq. 3; H226: >= 85 - 100 Skin Corr. 1A; H314: >= 90 - 100 Skin Irrit. 2; H315: >= 2 - < 10 Eye Dam. 1; H318: >= 10 - 100 Eye Irrit. 2; H319: >= 2 - < 10 | | | |

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Avoid contact with skin, eyes and clothes.
Take off immediately all contaminated clothing.

After inhalation

Provide fresh air.
Call a doctor if you feel unwell.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.
Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water.
Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk.
Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Irritant

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products
In case of fire may be liberated:
Carbon dioxide (CO₂) Carbon monoxide

5.3. Advice for firefighters

Formic acid 1 mol/l

Revision: 26.03.2025

Product code: AC15.01189

Page 4 of 11

In case of fire: Wear self-contained breathing apparatus.

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff.

Use personal protection equipment. Use extractor hood (laboratory).

Provide adequate ventilation. Do not breathe vapour/aerosol.

Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

Revision: 26.03.2025

Formic acid 1 mol/l

Product code: AC15.01189

Page 5 of 11

Further information on handling

Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.
Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed.

Hints on joint storage

Take national regulations into account.

Further information on storage conditions

Keep cool. Protect from sunlight.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|---------|-------------|-----|-------------------|-----------|-----------|--------|
| 64-18-6 | Formic acid | 5 | 9.6 | | TWA (8 h) | WEL |

DNEL/DMEL values

| CAS No | Substance | Exposure route | Effect | Value |
|---------|--------------------------|----------------|--------|-----------------------|
| 64-18-6 | formic acid ... % | | | |
| | Consumer DNEL, long-term | inhalation | local | 3 mg/m ³ |
| | Worker DNEL, long-term | inhalation | local | 9,5 mg/m ³ |

PNEC values

| CAS No | Substance | Value |
|---------|--|------------|
| 64-18-6 | formic acid ... % | |
| | Freshwater | 2 mg/l |
| | Freshwater (intermittent releases) | 1 mg/l |
| | Marine water | 0,2 mg/l |
| | Freshwater sediment | 13,4 mg/kg |
| | Marine sediment | 1,34 mg/kg |
| | Micro-organisms in sewage treatment plants (STP) | 7,2 mg/l |
| | Soil | 1,5 mg/kg |

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Revision: 26.03.2025

Formic acid 1 mol/l

Product code: AC15.01189

Page 6 of 11

Eye/face protection

goggles

Wear eye/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation KCL 720 Camapren®

Recommended material: CR (polychloroprene, chloroprene rubber) 0,65 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 240 min

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).

Skin protection

Wear suitable protective clothing. Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

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 allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

| | |
|--|-------------------|
| Physical state: | Liquid |
| Colour: | colourless |
| Odour: | odourless |
| Melting point/freezing point: | No data available |
| Boiling point or initial boiling point and boiling range: | No data available |
| Flammability: | No data available |

Revision: 26.03.2025

Formic acid 1 mol/l

Product code: AC15.01189

Page 7 of 11

| | |
|--|---------------------------|
| Lower explosion limits: | No data available |
| Upper explosion limits: | No data available |
| Flash point: | No data available |
| Auto-ignition temperature: | No data available |
| Decomposition temperature: | No data available |
| pH-Value: | 1-2 |
| Viscosity / kinematic: | No data available |
| Water solubility: | completely miscible |
| Solubility in other solvents | |
| No data available | |
| Partition coefficient n-octanol/water: | No data available |
| Vapour pressure: | No data available |
| Vapour pressure: | No data available |
| Density: | 1,00991 g/cm ³ |
| Bulk density: | No data available |
| Relative vapour density: | No data available |

9.2. Other information**Information with regard to physical hazard classes****Explosive properties**

No data available

Sustained combustibility:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics**Evaporation rate:**

No data available

Solvent separation test:

No data available

Solvent content:

0

Solid content:

0

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

No data available

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

No data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

No data available

10.2. Chemical stability

No data available

10.3. Possibility of hazardous reactions

Alkali (lye)

10.4. Conditions to avoid

No data available

Revision: 26.03.2025

Formic acid 1 mol/l

Product code: AC15.01189

Page 8 of 11

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information**11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

| CAS No | Chemical name | | | | |
|---------|-------------------|-------------------|---------|---------------------|--------------------|
| | Exposure route | Dose | Species | Source | Method |
| 64-18-6 | formic acid ... % | | | | |
| | oral | ATE 500 mg/kg | | | |
| | dermal | LD50 > 2000 mg/kg | Rat | Study report (2007) | OECD Guideline 402 |
| | inhalation vapour | ATE 7,4 mg/l | | | |

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards

Formic acid 1 mol/l

Revision: 26.03.2025

Product code: AC15.01189

Page 9 of 11

Other information

There are no data available on the mixture itself.

Further information

There are no data available on the mixture itself.

SECTION 12: Ecological information**12.1. Toxicity**

Based on available data, the classification criteria are not met.

| CAS No | Chemical name | | | | | |
|---------|--------------------------|------------------|-----------|---------------------------------|---------------------|--------------------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 64-18-6 | formic acid ... % | | | | | |
| | Acute fish toxicity | LC50 130 mg/l | 96 h | Danio rerio | Study report (2005) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 1240 mg/l | 72 h | Pseudokirchneriella subcapitata | Study report (2005) | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 365 mg/l | 48 h | Daphnia magna | Study report (2005) | OECD Guideline 202 |
| | Crustacea toxicity | NOEC >= 100 mg/l | 21 d | Daphnia magna | Study report (2007) | OECD Guideline 211 |

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|---------|-------------------|---------|
| 64-18-6 | formic acid ... % | -2,1 |

BCF

| CAS No | Chemical name | BCF | Species | Source |
|---------|-------------------|------|---------|----------------------|
| 64-18-6 | formic acid ... % | 3,16 | | Other company data (|

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

There are no data available on the mixture itself.

Further information

Do not allow to enter into surface water or drains.

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Revision: 26.03.2025

Formic acid 1 mol/l

Product code: AC15.01189

Page 10 of 11

Send to a physico-chemical treatment facility under observation of official regulations .

Do not allow to enter into surface water or drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Dispose of waste according to "Kreislaufwirtschafts- und Abfallgesetz (KrW-/AbfG)".

SECTION 14: Transport information**Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Marine transport (IMDG)**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:

No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

National regulatory information

Water hazard class (D): - - non-hazardous to water

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 9,12.

Revision: 26.03.2025

Formic acid 1 mol/l

Product code: AC15.01189

Page 11 of 11

Abbreviations and acronyms

Met. Corr. 1: Corrosive to metals, hazard category 1
Flam. Liq. 3: Flammable liquids, hazard category 3
Acute Tox. 3: Acute toxicity, hazard category 3
Acute Tox. 4: Acute toxicity, hazard category 4
Skin Corr. 1A: Skin corrosion, sub-category 1A
Skin Irrit. 2: Skin irritation, hazard category 2
Eye Dam. 1: Serious eye damage, hazard category 1
Eye Irrit. 2: Eye irritation, hazard category 2

Classification for mixtures and used evaluation method

| Classification | Classification procedure |
|---------------------|--------------------------|
| Skin Irrit. 2; H315 | Calculation method |
| Eye Irrit. 2; H319 | Calculation method |

Relevant H and EUH statements (number and full text)

H226 Flammable liquid and vapour.
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
EUH071 Corrosive to the respiratory tract.

Further Information

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)