

Formic acid 98-100% (ultra pure)

Revision: 06.01.2026

Product code: AC12.00581

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

Formic acid 98-100% (ultra pure)

Substance name: formic acid ... %
REACH Registration Number: 01-2119491174-37-XXXX
CAS No: 64-18-6
Index No: 607-001-00-0
EC No: 200-579-1

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

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1.4. Emergency telephone number: +44 20 3807 3798 (CHEMTREC)

Further Information

No data available

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

Flam. Liq. 3; H226
Met. Corr. 1; H290
Acute Tox. 3; H331
Acute Tox. 4; H302
Skin Corr. 1A; H314
Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008****Signal word:** Danger**Pictograms:****Hazard statements**

H226 Flammable liquid and vapour.
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H331 Toxic if inhaled.

Precautionary statements

P260 Do not breathe mist/vapours/spray.
P264 Wash hands and face thoroughly after handling.
P280 Wear protective gloves/protective clothing and eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients**3.1. Substances**

Sum formula: CH₂O₂
Molecular weight: 46.03 g/mol

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Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
64-18-6	formic acid ... %			100 %
	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.

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 ... %	100 %
		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 Corr. 1B; H314: >= 10 - < 90 Skin Irrit. 2; H315: >= 2 - < 10 Eye Dam. 1; H318: >= 10 - 100 Eye Irrit. 2; H319: >= 2 - < 10	

Further Information

No data available

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

Self-protection of the first aider
Call a physician immediately.

After inhalation

Provide fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.

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

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
Remove contact lenses, if present and easy to do. Continue rinsing.
Protect uninjured eye.

After ingestion

If swallowed, immediately drink: Water
Do NOT induce vomiting. (Gastric perforation)
Observe risk of aspiration if vomiting occurs.
Do not allow a neutralisation agent to be drunk.
Call a physician immediately.

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

Corrosive to the respiratory tract.
Spasms, Pulmonary oedema
Cough, Dyspnoea
Headache, Vomiting

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Pneumonia, Gastrointestinal complaints
strongly corrosive.

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

Combustible liquids

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated:

Carbon dioxide

Carbon monoxide

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

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****General advice**

Vapours can form explosive mixtures with air. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

To follow: Emergency procedures

Do not breathe 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.

Explosion risk.

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

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Collect in closed and suitable containers for disposal.

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For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe 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.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

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

Avoid: aerosol or mist formation

Provide adequate ventilation.

Use extractor hood (laboratory).

Advice on protection against fire and explosion

Take precautionary measures against static discharges.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Advice on general occupational hygiene

Keep away from: Food and feedingstuffs

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

Provide eye shower and label its location conspicuously

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**

Unsuitable container/equipment material: Metal

Protect against: Light, Radiant heat.

Keep away from sources of ignition - No smoking.

Store in a place accessible by authorized persons only.

Hints on joint storage

National regulations

Further information on storage conditions

Due to gaseous decomposition products, overpressure can occur in tightly sealed containers.

Close containers in such a way to enable internal pressure to escape (e.g. excess pressure valve).

Store in a dry place.

Store in a well-ventilated place.

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7.3. Specific end use(s)

Reagents and 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

Additional advice on limit values

Observe in addition any national regulations!

8.2. Exposure controls**Appropriate engineering controls**

Provide adequate ventilation as well as local exhaust at critical locations.

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Individual protection measures, such as personal protective equipment**Eye/face protection**

goggles

Face protection umbrella

Hand protection

Tested protective gloves must be worn

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.

Skin protection

Wear suitable protective clothing.

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When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn.

Take off immediately all contaminated clothing and wash it before reuse.

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.

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains.

Explosion risk.

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

Physical state:	Liquid
Colour:	colourless
Odour:	stinging
Odour threshold:	No data available
Melting point/freezing point:	8.5 °C
Boiling point or initial boiling point and boiling range:	100.8 (1013 hPa) °C
Flammability:	No data available
Lower explosion limits:	18 vol. %
Upper explosion limits:	38 vol. %
Flash point:	49.5 °C
Auto-ignition temperature:	528 °C
Decomposition temperature:	350 °C
pH-Value (at 20 °C):	2.2 (10 g/l)
Viscosity / kinematic: (at 20 °C)	1.47 mm ² /s
Water solubility:	very soluble
Solubility in other solvents	
No data available	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure: (at 50 °C)	171 hPa
Vapour pressure:	No data available
Density (at 20 °C):	1.22 g/cm ³
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	1.59
Particle characteristics:	No data available

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

Vapours can form explosive mixtures with air.

Sustained combustibility: No data available

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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:

No data available

Solid content:

No data available

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:
(at 20 °C)

1.8 mPa·s

Flow time:

No data available

Further Information

No data available

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

In case of warming:

Vapours can form explosive mixtures with air.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

Protect against: Light, Radiant heat.

10.3. Possibility of hazardous reactions

Alkali (lye), Oxidising agent, sulphuric acid, Nitric acid, Alkalies, Amines

Ignition: Aluminium

Explosion hazard with: Hypochlorites, Hydrogen peroxide

10.4. Conditions to avoid

Radiant heat.

Light

10.5. Incompatible materials

Metal

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****Acute toxicity**

Toxic if inhaled.

Harmful if swallowed.

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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 severe skin burns and eye damage.

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

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.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards**Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

Other information

Corrosive to the respiratory tract.

Spasms, Pulmonary oedema

Cough, Dyspnoea

Headache, Vomiting

Pneumonia, Gastrointestinal complaints

strongly corrosive.

Further information

No data available

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

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

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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

Readily biodegradable (according to OECD criteria).
(100% 14d)

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

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

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

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

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

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

UN 1779

14.2. UN proper shipping name:

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14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8+3
Classification code:	CF1
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	83
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1779
14.2. UN proper shipping name:	formic acid
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8+3
Classification code:	CF1
Limited quantity:	1 L
Excepted quantity:	E2

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1779
14.2. UN proper shipping name:	FORMIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8+3
Special Provisions:	-
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-E, S-C
Segregation group:	1 - acids

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1779
14.2. UN proper shipping name:	FORMIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8+3
Limited quantity Passenger:	0.5 L
Passenger LQ:	Y840
Excepted quantity:	E2
IATA-packing instructions - Passenger:	851
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	855
IATA-max. quantity - Cargo:	30 L

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

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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

Information according to Directive 2012/18/EU (SEVESO III): H2 ACUTE TOXIC

Additional information: P5c

Additional information

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

SECTION 16: Other information**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
Eye Dam. 1: Serious eye damage, hazard category 1

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.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
EUH071 Corrosive to the respiratory tract.

Further Information

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.