

FORMIC ACID 98% FOR SYNTHESIS

Safety Data Sheet

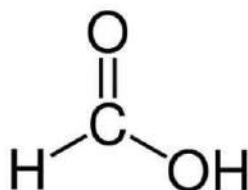
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Reference number: 00152
Issue date: 26-11-2021 Revision date: 26-11-2026 Supersedes version of: 13-02-2019 Version: 1.0



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

1.1. Product identifier

Product form : Substance
Trade name : FORMIC ACID 98% FOR SYNTHESIS
IUPAC name : Methanoic acid
EC Index-No. : 607-001-00-0
EC-No. : 200-579-1
CAS-No. : 64-18-6
Product code : B-01252
Type of product : Acids
Formula : CH₂O₂
Chemical structure :



Synonyms : Carbonous acid; Formylic acid; Hydrogen carboxylic acid; Hydroxy(oxo)methane; /
Metacarbonic acid; Oxocarbinic acid; Oxomethanol

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only
Use of the substance/mixture : Laboratory chemicals
Manufacture of substances

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Bio-Chem Chemicals
5455, Nicholson Road Science Market,
Ambala Cantt. 133001 Haryana (India)
+91-82952 41953
info@biofinechemical.com - www.biofinechemical.com

1.4. Emergency telephone number

Emergency number : +91 99921 51495 (10.00am - 06.30pm) (Office Hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 3 H226
Skin corrosion/irritation, Category 1, Sub-Category 1A H314
Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. Causes severe skin burns and eye damage.

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H226 - Flammable liquid and vapour.

H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP)

: P280 - Wear protective clothing, eye protection, face protection.

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 doctor.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type

: Mono-constituent

Name	Product identifier	%
FORMIC ACID 98% FOR SYNTHESIS	CAS-No.: 64-18-6 EC-No.: 200-579-1 EC Index-No.: 607-001-00-0	100

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

: Call a physician immediately.

First-aid measures after inhalation

: Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

First-aid measures after skin contact

: Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor. Call a physician immediately.

First-aid measures after eye contact

: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Call a physician immediately.

First-aid measures after ingestion

: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects

: Causes severe skin burns and eye damage.

Symptoms/effects after skin contact

: Burns.

Symptoms/effects after eye contact

: Serious damage to eyes.

Symptoms/effects after ingestion

: Burns.

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂). Water spray. Dry powder. Foam. Carbon dioxide.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Flammable liquid and vapour.
- Explosion hazard : Heating may cause a fire or explosion.
- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Avoid contact with skin, eyes and clothing. No open flames, no sparks, and no smoking. Do not breathe dust, fume, gas, mist, spray, vapours.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material. Clean contaminated surfaces with an excess of water. Notify authorities if product enters sewers or public waters.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe dust, fume, gas, mist, spray, vapours. Avoid contact during pregnancy/while nursing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes.
- Hygiene measures : Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations. Ground/bond container and receiving equipment.

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Storage conditions

: Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, colorless liquid.
Molecular mass	: 46.03 g/mol
Colour	: Clear Colorless.
Odour	: Pungent.
Odour threshold	: No data available
pH	: 2.2 (10 g/L aqueous solution)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: 5.5 °C
Boiling point	: 100 – 101 °C
Flash point	: 49.5 °C
Auto-ignition temperature	: 601 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: 42 hPa at 20 °C
Relative vapour density at 20 °C	: 1.59 (Air = 1)
Relative density	: No data available
Density	: 1.22 g/cm ³ at 20°C
Solubility	: Water: Infinitely soluble
Partition coefficient n-octanol/water (Log Pow)	: 0.54
Viscosity, kinematic	: 1.205 mm ² /s
Viscosity, dynamic	: 1.47 mPa·s at 20°C
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.18 – 0.57 vol %
Lower explosive limit (LEL)	: 10 vol %
Upper explosive limit (UEL)	: 45 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Air contact, Direct sunlight, Heat, High temperature, Open flame, Overheating, Avoid contact with hot surfaces, No flames, no sparks, Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Thermal decomposition generates : Corrosive vapours.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes severe skin burns. pH: 2.2 (10 g/L aqueous solution)
Serious eye damage/irritation	: Assumed to cause serious eye damage pH: 2.2 (10 g/L aqueous solution)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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Viscosity, kinematic	1.205 mm ² /s
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Before neutralisation, the product may represent a danger to aquatic organisms.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

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Partition coefficient n-octanol/water (Log Pow)	0.54
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

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- Product/Packaging disposal recommendations : Dispose of contents/container to a hazardous or special waste collection point, a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste, an approved waste disposal plant, an industrial incineration plant, Collection point, hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
- Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number

- UN-No. (ADR) : UN 1779
UN-No. (IMDG) : UN 1779
UN-No. (IATA) : UN 1779
UN-No. (ADN) : UN 1779
UN-No. (RID) : UN 1779

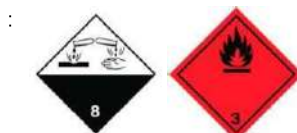
14.2. UN proper shipping name

- Proper Shipping Name (ADR) : FORMIC ACID
Proper Shipping Name (IMDG) : FORMIC ACID
Proper Shipping Name (IATA) : Formic acid
Proper Shipping Name (ADN) : FORMIC ACID
Proper Shipping Name (RID) : FORMIC ACID
Transport document description (ADR) : UN 1779 FORMIC ACID, 8 (3), II, (D/E)
Transport document description (IMDG) : UN 1779 FORMIC ACID, 8 (3), II
Transport document description (IATA) : UN 1779 Formic acid, 8 (3), II
Transport document description (ADN) : UN 1779 FORMIC ACID, 8 (3), II
Transport document description (RID) : UN 1779 FORMIC ACID, 8 (3), II

14.3. Transport hazard class(es)

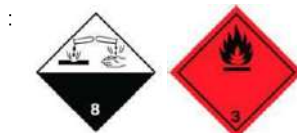
ADR

- Transport hazard class(es) (ADR) : 8 (3)
Danger labels (ADR) : 8, 3



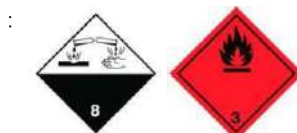
IMDG

- Transport hazard class(es) (IMDG) : 8 (3)
Danger labels (IMDG) : 8, 3



IATA

- Transport hazard class(es) (IATA) : 8 (3)
Danger labels (IATA) : 8, 3



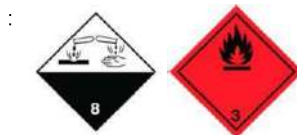
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ADN

Transport hazard class(es) (ADN) : 8 (3)
Danger labels (ADN) : 8, 3



RID

Transport hazard class(es) (RID) : 8 (3)
Danger labels (RID) : 8, 3



14.4. Packing group

Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : CF1
Limited quantities (ADR) : 1I
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P001, IBC02
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T7
Portable tank and bulk container special provisions (ADR) : TP2
Tank code (ADR) : L4BN
Tank special provisions (ADR) : TU42
Vehicle for tank carriage : FL
Transport category (ADR) : 2
Special provisions for carriage - Operation (ADR) : S2
Hazard identification number (Kemler No.) : 83
Orange plates :



Tunnel restriction code (ADR) : D/E
EAC code : •2W
APP code : A(fl)

Transport by sea

Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02

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Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP2
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-C
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW2
Segregation (IMDG) : SGG1, SG36, SG49
Properties and observations (IMDG) : Colourless flammable liquid with a pungent odour. Pure FORMIC ACID: flashpoint 42°C c.c.
Corrosive to most metals. Causes burns to skin, eyes and mucous membranes.
MFAG-No : 153

Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y840
PCA limited quantity max net quantity (IATA) : 0.5L
PCA packing instructions (IATA) : 851
PCA max net quantity (IATA) : 1L
CAO packing instructions (IATA) : 855
CAO max net quantity (IATA) : 30L
ERG code (IATA) : 8F

Inland waterway transport

Classification code (ADN) : CF1
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Equipment required (ADN) : PP, EP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 1

Rail transport

Classification code (RID) : CF1
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T7
Portable tank and bulk container special provisions (RID) : TP2
Tank codes for RID tanks (RID) : L4BN
Special provisions for RID tanks (RID) : TU42
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE6
Hazard identification number (RID) : 83

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
3(a)	FORMIC ACID 98% FOR SYNTHESIS
3(b)	FORMIC ACID 98% FOR SYNTHESIS
40.	FORMIC ACID 98% FOR SYNTHESIS

FORMIC ACID 98% FOR SYNTHESIS is not on the REACH Candidate List

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FORMIC ACID 98% FOR SYNTHESIS is not on the REACH Annex XIV List

FORMIC ACID 98% FOR SYNTHESIS is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

FORMIC ACID 98% FOR SYNTHESIS is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 210)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H226;H314>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level

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Abbreviations and acronyms	
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements	
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.