

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Formic acid 10 % technical grade

Revision date: 04.10.2023

Product code: 33403

Page 1 of 12

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

### 1.1. Product identifier

Formic acid 10 % technical grade

UFI: NTGY-N2C8-700M-H6A7

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

#### Use of the substance/mixture

Laboratory chemical

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

#### Uses advised against

Do not use for private purposes (household).

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

Company name:	AnalytiChem GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
E-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.de	
Responsible Department:	Abteilung Produktsicherheit	

### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

### Further Information

This product is a mixture. REACH Registration Number see section 3.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No 1272/2008

Acute Tox. 4; H332

Skin Corr. 1B; H314

Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### Regulation (EC) No 1272/2008

#### Hazard components for labelling

formic acid

Signal word: Danger

Pictograms:



#### Hazard statements

H314 Causes severe skin burns and eye damage.  
H332 Harmful if inhaled.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Formic acid 10 % technical grade**

Revision date: 04.10.2023

Product code: 33403

Page 2 of 12

**Precautionary statements**

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.

**Special labelling of certain mixtures**

- EUH071 Corrosive to the respiratory tract.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Chemical characterization**

Mixtures in aqueous solution

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
64-18-6	formic acid			10 - < 15 %
	200-579-1	607-001-00-0	01-2119491174-37	
	Flam. Liq. 3, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1A; H226 H331 H302 H314 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	10 - < 15 %
		inhalation: LC50 = 7,85 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 730 mg/kg Skin Corr. 1A; H314: >= 90 - 100 Skin Corr. 1B; H314: >= 10 - < 90 Skin Irrit. 2; H315: >= 2 - < 10 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**

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. Take off immediately all contaminated clothing and wash it before reuse.

**After inhalation**

Provide fresh air.  
Call a physician immediately.

**After contact with skin**

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Formic acid 10 % technical grade

Revision date: 04.10.2023

Product code: 33403

Page 3 of 12

#### 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.

#### After ingestion

Never give anything by mouth to an unconscious person or a person with cramps.

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk.

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

Dyspnoea

Irritation to respiratory tract

Risk of serious damage to eyes.

Conjunctival oedema (chemosis).

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

Water spray jet, Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

#### Unsuitable extinguishing media

no restriction

### 5.2. Special hazards arising from the substance or mixture

In case of warming: Vapours can form explosive mixtures with air.

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 monoxide, Carbon dioxide (CO<sub>2</sub>)

#### Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet.

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

Danger of bursting container.

## 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

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Formic acid 10 % technical grade

Revision date: 04.10.2023

Product code: 33403

Page 4 of 12

#### For containment

- Cover drains.
- Prevent spread over a wide area (e.g. by containment or oil barriers).
- Collect in closed and suitable containers for disposal.
- Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### 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

- If handled uncovered, arrangements with local exhaust ventilation have to be used.
- Do not breathe vapour/aerosol.
- Read label before use.

#### Advice on protection against fire and explosion

- In case of warming: Vapours can form explosive mixtures with air.

#### Advice on general occupational hygiene

- 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.

#### Further information on handling

- 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.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

- Provide adequate ventilation as well as local exhaustion at critical locations. Keep in a cool, well-ventilated place.

#### Further information on storage conditions

- Protect against: Light
- Keep cool. Protect from sunlight.
- Corrosive to metals.
- Unsuitable container/equipment material: Metal

### 7.3. Specific end use(s)

- Laboratory chemicals

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Formic acid 10 % technical grade**

Revision date: 04.10.2023

Product code: 33403

Page 5 of 12

**Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
64-18-6	Formic acid	5	9		TWA (8 h)	

**DNEL/DMEL values**

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

**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. Do not breathe gas/fumes/vapour/spray.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Suitable eye protection: goggles.  
Face protection shield

**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.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Trade name/designation KCL 720 Camapren®

Suitable 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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Formic acid 10 % technical grade

Revision date: 04.10.2023

Product code: 33403

Page 6 of 12

Suitable material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with occasional contact (splashes): >250 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.  
Material, acid-resistant

#### Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

#### 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:	stinging	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		not applicable
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:		1,5
Viscosity / kinematic:		No data available
Water solubility:		very soluble
Solubility in other solvents		
No data available		
Partition coefficient n-octanol/water:		No data available
Vapour pressure:		No data available
(at 20 °C)		
Vapour pressure:		No data available
(at 50 °C)		
Density:		1,0224 g/cm <sup>3</sup>
Bulk density:		No data available
Relative vapour density:		No data available

### 9.2. Other information

#### Information with regard to physical hazard classes

##### Explosive properties

In case of warming: Vapours can form explosive mixtures with air.

##### Sustaining combustion:

No data available

##### Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Formic acid 10 % technical grade

Revision date: 04.10.2023

Product code: 33403

Page 7 of 12

Oxidizing properties  
Not oxidising.

#### Other safety characteristics

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	0
Sublimation point:	No data available
Softening point:	No data available
Pour point:	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

In case of warming: Vapours can form explosive mixtures with air.

### 10.2. Chemical stability

slow decomposition  
Protect against:  
Light  
Heat

### 10.3. Possibility of hazardous reactions

Amines  
Alkali (lye)  
Oxidising agent  
Aluminium  
Hydrogen peroxide  
Nitric acid

### 10.4. Conditions to avoid

Light  
Heat

### 10.5. Incompatible materials

Corrosive to metals.

### 10.6. Hazardous decomposition products

No data available

#### Further information

No data available

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

#### Acute toxicity

Harmful if inhaled.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Formic acid 10 % technical grade**

Revision date: 04.10.2023

Product code: 33403

Page 8 of 12

**ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) 5,000 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-18-6	formic acid				
	oral	LD50 730 mg/kg	Rat	Study report (1985)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2007)	OECD Guideline 402
	inhalation (4 h) vapour	LC50 7,85 mg/l	Rat	Study report (1980)	OECD Guideline 403
	inhalation dust/mist	ATE 0,5 mg/l			

**Irritation and corrosivity**

Causes severe skin burns and eye damage.

Causes serious eye damage.

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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**

**Other information**

gastric perforation

Pulmonary oedema, Conjunctival oedema (chemosis), Risk of serious damage to eyes.

**Further information**

Cough

Dyspnoea

**SECTION 12: Ecological information**

**12.1. Toxicity**

There are no data available on the mixture itself.



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Formic acid 10 % technical grade**

Revision date: 04.10.2023

Product code: 33403

Page 9 of 12

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 mg/l	1240	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 mg/l	>= 100	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**

No indication of bioaccumulation potential.  
Does not significantly accumulate in organisms.

**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 REACH, annex XIII.

**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**

Do not empty into drains.

**Further information**

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.  
Send to a physico-chemical treatment facility under observation of official regulations.  
Do not empty into 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.

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Formic acid 10 % technical grade**

Revision date: 04.10.2023

Product code: 33403

Page 10 of 12

**14.1. UN number or ID number:** UN 3412  
**14.2. UN proper shipping name:** FORMIC ACID  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8  
Classification code: C3  
Limited quantity: 1 L  
Excepted quantity: E2  
Transport category: 2  
Hazard No: 80  
Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 3412  
**14.2. UN proper shipping name:** FORMIC ACID  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8  
Classification code: C3  
Limited quantity: 1 L  
Excepted quantity: E2

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 3412  
**14.2. UN proper shipping name:** FORMIC ACID  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8  
Special Provisions: -  
Limited quantity: 1 L  
Excepted quantity: E2  
EmS: F-A, S-B

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** UN 3412  
**14.2. UN proper shipping name:** FORMIC ACID  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8  
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**

Warning: Combustible liquid. strongly corrosive.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information**

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Formic acid 10 % technical grade**

Revision date: 04.10.2023

Product code: 33403

Page 11 of 12

**EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

Information according to 2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

**National regulatory information**

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

1 - slightly hazardous to water

**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 1,8,9,11,12.

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Flam. Liq: Flammable liquid

Acute Tox: Acute toxicity

Skin Corr: Skin corrosion

Eye Dam: Eye damage

**Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]**

Classification	Classification procedure
Acute Tox. 4; H332	Calculation method
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method

**Relevant H and EUH statements (number and full text)**

H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H331 Toxic if inhaled.  
H332 Harmful if inhaled.  
EUH071 Corrosive to the respiratory tract.

**Further Information**

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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Formic acid 10 % technical grade

Revision date: 04.10.2023

Product code: 33403

Page 12 of 12

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