Revision: 02.06.2021



Safety data sheet according to 1907/2006/EC, Article 31

Printing date 07.06.2021

Version number 6.0

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

- · 1.1 Product identifier
- · Trade name: Formic acid, 98 100%, for analysis, ExpertQ®, ACS, Reag. Ph Eur
- · Article number: AC1085
- · CAS Number:

64-18-6

· EC number:

200-579-1

· Index number:

607-001-00-0

- Registration number 01-2119491174-37-XXXX
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
 No further relevant information available.
- · Application of the substance / the preparation: Laboratory reagent
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Scharlab, S.L.

C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa 08181 Sentmenat (Barcelona) SPAIN

Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65

email: scharlab@scharlab.com Internet Web Site: www.scharlab.com

· Regional representation:

Scharlab, S.L.

C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa 08181 Sentmenat (Barcelona) SPAIN

Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65

email: scharlab@scharlab.com
Internet Web Site: www.scharlab.com

- · Further information obtainable from: technical department
- · 1.4 Emergency telephone number:

Please contact the regional Scharlab distributor/dealer in your country During normal opening times: Scharlab, S.L. (+34) 93 715 18 11

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

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Trade name: Formic acid, 98 - 100%, for analysis, ExpertQ®, ACS, Reag. Ph Eur

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Acute Tox. 4 H302 Harmful if swallowed.

- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

· Hazard pictograms







GHS02 GHS05 GHS06

- · Signal word Danger
- Hazard statements

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

· Precautionary statements

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.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/

international regulations.

- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · **vPvB**: Not applicable.

SECTION 3: Composition/information on ingredients

- · 3.1 Chemical characterisation: Substances
- · CAS No. Description

64-18-6 formic acid

- · Identification number(s)
- **EC number:** 200-579-1
- · Index number: 607-001-00-0

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information: Immediately remove any clothing soiled by the product.
- · After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact:

Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.

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• 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed.
 No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
- · Suitable extinguishing agents:

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · 5.2 Special hazards arising from the substance or mixture
- No further relevant information available.
- 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures
 Wear protective equipment. Keep unprotected persons away.
- · 6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Use neutralising agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

- · Information about fire and explosion protection: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep container tightly sealed.
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · 8.1 Control parameters
- · Additional information about design of technical facilities: No further data; see item 7.
- · Ingredients with limit values that require monitoring at the workplace:

64-18-6 formic acid

WEL Long-term value: 9.6 mg/m³, 5 ppm

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· DNELs

DNEL worker, cronic. Acute local and systematic effects: Inhalative - 9.5 mg/m3

DNEL consumer, acute. Local effects: Inhalative - 9.5 mg/m3

DNEL consumer, acute. Systematic effects: Inhalative - 9.5 mg/m3

DNEL consumer, prolonged. Local effects: Inhalative - 3 mg/m3

DNEL consumer, prolonged. Systematic effects: Inhalative - 3 mg/m3

DNEL worker, acute. Local effects: Inhalative - 19 mg/m3

DNEL worker, acute. Systematic effects: Inhalative - 19 mg/m3

PNEC (Fresh water): 2 mg/L

PNEC (Sea water): 0.2 mg/L

PNEC (Freshwater sediments): 13.4 mg/kg PNEC (Seawater sediments): 1.34 mg/kg

PNEC (Soil): 1.5 mg/kg

PNEC (Periodic water release): 1 mg/L

PNEC (Residual water depuration system): 7.2 mg/kg

Additional information: The lists valid during the making were used as basis.

· 8.2 Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:
Colour:
Colour:
Acrid

Odour threshold: Not determined.pH-value: Not determined.

· Change in condition

Melting point/freezing point: -9 °C Initial boiling point and boiling range: 107 °C

· Flash point: 48 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 520 °C

Decomposition temperature: Not determined.
 Auto-ignition temperature: Not determined.

• Explosive properties: Product is not explosive. However, formation of

explosive air/vapour mixtures are possible.

· Explosion limits:

Lower:
Upper:

Vapour pressure at 20 °C:

Density at 20 °C:

Relative density

Vapour density

Vapour density

Evaporation rate

14 Vol %
33 Vol %

43 hPa

1.19 g/cm³

Not determined.

Not determined.

· Solubility in / Miscibility with

water: Fully miscible.

Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

Dynamic: Not determined. **Kinematic:** Not determined.

• **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

- · 10.3 Possibility of hazardous reactions No dangerous reactions known.
- · 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: No further relevant information available.

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· 10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity

Harmful if swallowed.

Toxic if inhaled.

· LD/LC50 values relevant for classification:

Oral LD50 730 mg/kg (rat)

Inhalative LC50/4 h 7.85 mg/l (rat)

- · Primary irritant effect:
- · Skin corrosion/irritation

Skin - Rabbit

Causes severe skin burns and eye damage.

- · Serious eye damage/irritation
 - Causes severe skin burns and eye damage.
- · Respiratory or skin sensitisation

Sensitisation test - Guinea pig

Result: negative

- · Additional toxicological information:
- · CMR effects (carcinogenity, mutagenicity and toxicity 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.

SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- · 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

- · 12.5 Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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- · Uncleaned packaging:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agents: Water, if necessary together with cleansing agents.

UN1779

1779 FORMIC ACID

FORMIC ACID

SECTION 14: Transport information

· 14.1 UN-Number

· ADR, IMDG, IATA

· 14.2 UN proper shipping name

· ADR

· IMDG, IATA

· 14.3 Transport hazard class(es)

· ADR





• Class 8 Corrosive substances.

· Label 8

· IMDG





· Class 8 Corrosive substances.

· Label 8/3

· IATA





· Class 8 Corrosive substances.

· Label 8 (3)

· 14.4 Packing group

· ADR, IMDG, IATA

· 14.5 Environmental hazards:

· Marine pollutant: No

14.6 Special precautions for user Warning: Corrosive substances.

· Hazard identification number (Kemler code): 80

EMS Number: F-A,S-B
Segregation groups Acids
Stowage Category A

Segregation Code SG36 Stow "separated from" SGG18-alkalis.

Ш

SG49 Stow "separated from" SGG6-cyanides

· 14.7 Transport in bulk according to Annex II

of Marpol and the IBC Code Not applicable.

· Transport/Additional information:

ADR

Limited quantities (LQ)
Transport category
Tunnel restriction code
D/E

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· UN "Model Regulation":

UN 1779 FORMIC ACID, 8 (3), II

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I -
- Seveso category

H2 ACUTE TOXIC

P5c FLAMMABLE LIQUIDS

- Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 40
- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment - Annex II

Substance is not listed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Classification according to Regulation (EC) No 1272/2008

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

- · Department issuing SDS: product safety department
- Contact: msds@scharlab.com
- Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international 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 Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids - Category 3

Acute Tox. 4: Acute toxicity - Category 4

Acute Tox. 3: Acute toxicity - Category 3

Skin Corr. 1A: Skin corrosion/irritation - Category 1A

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Trade name: Formic acid, 98 - 100%, for analysis, ExpertQ®, ACS, Reag. Ph Eur

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Annex: Exposure scenario 1

- · 1 Short title of the exposure scenario
- · Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

- · Process category PROC15 Use as laboratory reagent
- · Environmental release category

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

- Description of the activities / processes covered in the Exposure Scenario
 See section 1 of the annex to the Safety Data Sheet.
- · 2 Conditions of use
- · Duration and frequency

8hrs (full working shift).

5 workdays/week.

- · Environment Indoor use
- · Physical parameters

Vapor pressure: 4271 Pa Process temperature: 20 °C

- · Physical state Fluid
- · Concentration of the substance in the mixture

It covers a percentage of substance in the product up to 100 %

- · Other operational conditions
- Other operational conditions affecting environmental exposure No special measures required.
- · Other operational conditions affecting worker exposure

Avoid contact with eyes.

Avoid contact with the skin.

Observe instructions for use / storage.

- · Other operational conditions affecting consumer exposure Keep out of the reach of children.
- · Other operational conditions affecting consumer exposure during the use of the product Not applicable.
- · Risk management measures

Use in a ventilated with filtered air pressurized cabin. Effectiveness 90%

- Worker protection
- · Organisational protective measures

Ensure operatives are trained to minimise exposures.

Clean equipment and the work area every day.

Keep good industrial hygiene.

Deploy only trained chemical workers.

The appropriate type of chemical protective glove has to be selected specifically, depending on the concentration and quantity of hazardous substances in the workplace.

The employer must also ensure that the required personal protective equipment is available and it is used as directed.

Handling procedures must be well documented.

Workers processes / areas identified risk should be trained to:

- a) Avoid working without respiratory protection
- b) To understand the corrosive properties of the substance with they work
- c) Observe the safest procedures indicated by the employer

Ensure that activities are executed by specialists or authorised personnel only.

· Technical protective measures

Minimization of manual phases.

Replace, if possible, manual processes by automated processes and / or closed. This would avoid irritating mists, sprays and splashes.

Personal protective measures

Avoid contact with the skin.

Avoid contact with the eyes.

Tightly sealed goggles

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Face protection

Protective work clothing

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Measures for consumer protection

Ensure adequate labelling.

Keep locked up and out of the reach of children.

· Environmental protection measures

· Water

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

· Disposal measures

Disposal must be made according to official regulations.

Ensure that waste is collected and contained.

· Disposal procedures

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- · Waste type Partially emptied and uncleaned packaging
- · 3 Exposure estimation

· Worker (dermal)

The exposure estimation was carried out in accordance with ECETOC TRA.

No significant dermal exposure

· Worker (inhalation)

The exposure estimation was carried out in accordance with ECETOC TRA.

PROC 15: 1.9177 mg/m3, RCR 0.202

- · Consumer Not relevant for this Exposure Scenario.
- · 4 Guidance for downstream users No further relevant information available.

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Trade name: Formic acid, 98 - 100%, for analysis, ExpertQ®, ACS, Reag. Ph Eur

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Annex: Exposure scenario 2

- · 1 Short title of the exposure scenario Laboratory use
- · Sector of Use

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

- · Process category PROC15 Use as laboratory reagent
- · Environmental release category

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

- Description of the activities / processes covered in the Exposure Scenario
 See section 1 of the annex to the Safety Data Sheet.
- · 2 Conditions of use
- · Duration and frequency

8hrs (full working shift).

5 workdays/week.

· Physical parameters

Vapor pressure: 4271 Pa Process temperature: 20 °C

- · Physical state Fluid
- · Concentration of the substance in the mixture

It covers a percentage of substance in the product up to 100 %

- Other operational conditions Observe the general safety regulations when handling chemicals.
- · Other operational conditions affecting environmental exposure No special measures required.
- · Other operational conditions affecting worker exposure

Indoor application.

Avoid contact with the skin, eyes and clothing.

Avoid exposure - obtain special instructions before use.

Avoid direct contact with the chemical /product / preparation by organisational measures.

Gloves required during a shift

Respiratory protection is required in work areas with inadequate ventilation and during spraying application.

- · Other operational conditions affecting consumer exposure Keep out of the reach of children.
- · Other operational conditions affecting consumer exposure during the use of the product Not applicable.
- · Risk management measures
- Worker protection
- · Organisational protective measures

Deploy only trained chemical workers.

Ensure operatives are trained to minimise exposures.

The employer must also ensure that the required personal protective equipment is available and it is used as directed.

The appropriate type of chemical protective glove has to be selected specifically, depending on the concentration and quantity of hazardous substances in the workplace.

Workers processes / areas identified risk should be trained to:

- a) Avoid working without respiratory protection
- b) To understand the corrosive properties of the substance with they work
- c) Observe the safest procedures indicated by the employer

Ensure that activities are executed by specialists or authorised personnel only.

Keep good industrial hygiene.

Do not exceed normal working hours per worker.

· Technical protective measures

Minimization of manual phases.

Replace, if possible, manual processes by automated processes and / or closed. This would avoid irritating mists, sprays and splashes.

Avoid splashing.

Handle with care. Avoid jolting, friction and impact.

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Trade name: Formic acid, 98 - 100%, for analysis, ExpertQ®, ACS, Reag. Ph Eur

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· Personal protective measures

Avoid contact with the skin.

Avoid contact with the eyes.

Tightly sealed goggles

Safety glasses

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Face protection

Protective work clothing

· Measures for consumer protection

Ensure adequate labelling.

Keep locked up and out of the reach of children.

· Environmental protection measures

· Water

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

· Disposal measures Ensure that waste is collected and contained.

· Disposal procedures

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Waste type Partially emptied and uncleaned packaging

· 3 - Exposure estimation

To estimate exposures in the workplace has been used ECETOC TRA tool unless otherwise indicated.

- · Worker (oral) No significant oral exposure
- · Worker (dermal) No significant dermal exposure
- · Worker (inhalation)

PROC 15: 3.8354 mg/m3, RCR 0.4037

The exposure estimation was carried out in accordance with ECETOC TRA.

- · Consumer Not relevant for this Exposure Scenario.
- · 4 Guidance for downstream users

Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.