

FORMIC ACID 85%

Version Revision Date: SDS Number: Date of last issue: -

3.5 04.10.2016 150000103880 Date of first issue: 03.12.2015

SDSIN / PRD / 0001

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : FORMIC ACID 85%

Product code : 51376-00, P513764H, N513763S, N513764S, N513767S,

N513768S, N513769S, P513761G, P513761A, P513761B, P513761C, P513761D, P513762A, P513761E, P513764G, P513761F, P513762G, P513762F, P513762E, P513762D, P513762C, P513762B, P513762H, P513764A, P513764F, P513764E, P513764B, P513764D, P513764C, P513762I

Manufacturer or supplier's details

Company : Eastman Chemical Company

Address : 200 South Wilcox Drive

Kingsport TN 37660-5280

Telephone : (423) 229-2000

Emergency telephone number : 000-800-100-7141

CHEMTREC: +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : pickling acids

adjustment of pH value in textile and leather industry

Restrictions on use : No information available.

2. HAZARDS IDENTIFICATION

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

Classification

GHS Classification

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 3

Skin corrosion/irritation : Category 1

Serious eye damage/eye irri-

tation

: Category 1

GHS label elements

Hazard pictograms





Signal word : Danger



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Hazard statements : H227 Combustible liquid.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H331 Toxic if inhaled.

Precautionary statements : Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames

and other ignition sources. No smoking.

P261 Avoid breathing vapours.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT

induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediate-

ly all contaminated clothing. Rinse skin with water.

P304 + P340 IF INHALED: Remove person to fresh air and

keep comfortable for breathing.

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 or doctor/ physi-

cian.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use water spray, alcohol-resistant

foam, dry chemical or carbon dioxide to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container

tightly closed.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)	
formic acid	64-18-6	> 85 - 87	

4. FIRST AID MEASURES

General advice : Take off all contaminated clothing immediately.

Remove victim from exposure and then have him lie down in

the recovery position.

If not breathing, give artificial respiration.



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If inhaled : Remove person to fresh air and keep comfortable for breath-

ing.

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Get immediate medical advice/ attention.

In case of skin contact : In case of contact, immediately flush skin with plenty of water

for at least 15 minutes while removing contaminated clothing

and shoes.

Cover wound with sterile dressing. Get immediate medical advice/ attention.

Rinse immediately with plenty of water, also under the eyelids, In case of eye contact

for at least 15 minutes.

Immediate medical attention is required.

If swallowed Rinse mouth with water.

> Drink plenty of water. Do NOT induce vomiting.

Never give anything by mouth to an unconscious person.

Get immediate medical advice/ attention.

Most important symptoms and effects, both acute and

delayed

: corrosive effects Harmful if swallowed.

Causes serious eye damage.

Toxic if inhaled. Causes severe burns.

Notes to physician : Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water

Dry powder

Alcohol-resistant foam Carbon dioxide (CO2)

Hazardous combustion prod-

ucts

Carbon monoxide

Specific extinguishing meth-

: Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Special protective equipment

for firefighters

: Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- : Keep people away from and upwind of spill/leak. tive equipment and emer-

gency procedures

Wear respiratory protection.

Avoid contact with skin, eyes and clothing.

Environmental precautions : Do not empty into drains.

Methods and materials for containment and cleaning up : Large spills should be collected mechanically (remove by

pumping) for disposal.



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Residues

Soak up with inert absorbent material.

Sand

Universal binder

7. HANDLING AND STORAGE

Advice on protection against

fire and explosion

: Keep away from sources of ignition - No smoking.

Advice on safe handling : Use only with adequate ventilation.

The pressure in sealed containers can increase under the

influence of heat. Keep away from heat.

Ensure that eyewash stations and safety showers are close to

the workstation location.

Conditions for safe storage : Keep away from sources of ignition - No smoking.

Protect from sunlight.

Keep away from combustible material.

The product may form CO (carbon monoxide) under pro-

longed storage.

Before entering storage tanks, the CO (carbon monoxide)

level should be checked.

Materials to avoid

Bases Amines

Strong acids and oxidizing agents

Copper Aluminium

Combustible material

Recommended storage tem-

perature

: < 30 °C

Storage period : <= 24 Months

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type	Control parame-	Basis
		(Form of	ters / Permissible	
		exposure)	concentration	
formic acid	64-18-6	TWA	5 ppm	IN OEL
			9 mg/m3	
		TWA	5 ppm	ACGIH
		STEL	10 ppm	ACGIH

Engineering measures : Ensure adequate ventilation.

Personal protective equipment

Respiratory protection : Respirator with a gas filter



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Respirator type:

Type A Long term

or

(in case of higher concentration) Self-contained breathing apparatus

Hand protection

Material Wear suitable gloves.

> Chloroprene butyl-rubber

Remarks Take note of the information given by the producer concerning

permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Tightly fitting safety goggles Eye protection

Face-shield

Skin and body protection Body protection suitability and breakthrough time will differ

depending on the specific use conditions.

acid-resistant protective clothing

Chemical resistant apron

Footwear protecting against chemicals

: Avoid contact with skin, eyes and clothing. Protective measures

Avoid inhalation of vapour or mist.

Hygiene measures

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : colourless, clear

Odour pungent

Odour Threshold : not determined

pΗ : < 1

Melting point/range : -13.5 °C

Boiling point/boiling range : 107 °C

: 67 °C Flash point

Method: Pensky-Martens closed cup

Evaporation rate : not determined

Flammability (solid, gas) : Not applicable

Upper explosion limit : Upper flammability limit



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51 %(V) Formic acid

Lower explosion limit : lower flammability limit

18 %(V) Formic acid

Vapour pressure : < 4.4 kPa (20 °C)

Relative vapour density : No data available

Relative density : 1.2 (20 °C)

Density : 1.2 g/cm3 (20 °C)

Solubility(ies)

Water solubility : completely soluble

Partition coefficient: n- : log Pow: -2.1 (23 °C)

octanol/water

pH: 7

Formic acid

Decomposition temperature : 350 °C

Method: DSC Formic acid

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : Not classified

Oxidizing properties : Not classified

Surface tension : 71.5 mN/m, 20 °C, Formic acid

10. STABILITY AND REACTIVITY

Reactivity : Reacts with the following substances:

Bases Amines

Chemical stability : Stable under normal conditions.

The product may form CO (carbon monoxide) under pro-

longed storage.

Possibility of hazardous reac-

tions

Exothermic reaction

Reacts with the following substances:

Bases Amines

Conditions to avoid : Do not expose to temperatures above: 30 °C



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To avoid thermal decomposition, do not overheat.

Incompatible materials Strong oxidizing agents

Strong acids

Bases Amines Copper Aluminium

Combustible material

Hazardous decomposition

products

: Thermal decomposition

Carbon monoxide

The product may form CO (carbon monoxide) under pro-

longed storage.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed. Toxic if inhaled.

Product:

: Acute toxicity estimate: 588.24 mg/kg Acute oral toxicity

Method: Calculation method

: Acute toxicity estimate: 3.53 mg/l Acute inhalation toxicity

> Exposure time: 4 h Test atmosphere: vapour Method: Calculation method

Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : Assessment: Not classified

Components:

formic acid:

Acute oral toxicity : LD50 Oral (Rat): 730 mg/kg

: LC50 (Rat): 7.85 mg/l Acute inhalation toxicity

Exposure time: 4 h

Skin corrosion/irritation

Causes severe burns.

Components:

formic acid:

Assessment: Corrosive

Serious eye damage/eye irritation

Causes serious eye damage.



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Components:

formic acid:

Assessment: Corrosive

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Product:

Remarks: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Information on likely routes of exposure

Product:

Inhalation : Symptoms: Inhalation of vapours is irritating to the respiratory

system, may cause throat pain and cough., Breathing difficul-

ties

Skin contact : Symptoms: Causes skin burns., May cause skin irritation

and/or dermatitis.

Eye contact : Symptoms: Causes serious eye damage.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

formic acid:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 130 mg/l

Exposure time: 96 h

Toxicity to daphnia and other

aquatic invertebrates

: EC50 (Daphnia magna (Water flea)): 365 mg/l

Exposure time: 48 h



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Toxicity to algae : EC50 (Chlorella pyrenoidosa (aglae)): 1,240 mg/l

Exposure time: 72 h

Persistence and degradability

Components:

formic acid:

Biodegradability : Result: Readily biodegradable

Bioaccumulative potential

Components:

formic acid:

Bioaccumulation : Bioconcentration factor (BCF): 3.2

Remarks: Does not bioaccumulate.

Partition coefficient: n-

octanol/water

: log Pow: -2.1

Mobility in soil

Product:

Mobility : Medium: Water

Remarks: soluble

Other adverse effects

Product:

Results of PBT and vPvB

assessment

: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be

very persistent and very bioaccumulating (vPvB).

Remarks: Not applicable

Components:

formic acid:

Results of PBT and vPvB

assessment

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be

very persistent and very bioaccumulating (vPvB).

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : In accordance with local and national regulations.

Do not dispose of waste into sewer.

Can be incinerated, when in compliance with local regulations.

Contaminated packaging : In accordance with local and national regulations.

The hazard and precautionary statements displayed on the

label also apply to any residues left in the container.



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14. TRANSPORT INFORMATION

International Regulation

IATA-DGR

: UN 1779 UN/ID No. Proper shipping name : Formic acid

: 8 Class Subsidiary risk : 3 Packing group Ш

Labels Corrosive, Flammable Liquids

855

: 851

Packing instruction (cargo

Packing instruction (passen-

aircraft)

ger aircraft)

IMDG-Code

UN number : UN 1779 : FORMIC ACID Proper shipping name

Class : 8 Subsidiary risk : 3 : 11 Packing group Labels : 8 (3) EmS Code : F-E, S-C Marine pollutant

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mix-

The components of this product are reported in the following inventories:

CH INV : On the inventory, or in compliance with the inventory

DSL : On the inventory, or in compliance with the inventory

AICS : On the inventory, or in compliance with the inventory

NZloC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

KECI On the inventory, or in compliance with the inventory

PICCS On the inventory, or in compliance with the inventory

IECSC On the inventory, or in compliance with the inventory



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TCSI : Not listed

TSCA : On the inventory, or in compliance with the inventory

16. OTHER INFORMATION

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN -Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC -No Observed (Adverse) Effect Concentration: NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS -Workplace Hazardous Materials Information System

Date format : dd.mm.yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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