

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 09.12.2022

Version: 7.0

Date previous version: 16.06.2020

Previous version: 6.0

Date / First version: 08.04.2011

Product: **Amasil® 99**

(ID no. 30041107/SDS_GEN_IE/EN)

Date of print 08.10.2025

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

1.1. Product identifier

Amasil® 99

Chemical name: formic acid...%

CAS Number: 64-18-6

REACH registration number: 01-2119491174-37-0000, 01-2119491174-37-0013

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

Relevant identified uses: feed additive(s)

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:BASF SE
67056 Ludwigshafen
GERMANYContact address:BASF Ireland DAC
Asgard House, 19-20 City Quay
Dublin, D02 K744
Ireland

Telephone: +353 21 451-7100

E-mail address: product-safety-uk-and-ireland@basf.com

1.4. Emergency telephone number

For products classified as hazardous in accordance with CLP:

National Poisons Information Centre, Beaumont Hospital, Dublin 9

Emergency medical information: 8am-10pm (seven days)

Tel.: 01 8092566

International emergency number:

Telephone: +49 180 2273-112

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SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Flam. Liq. 3	H226 Flammable liquid and vapour.
Acute Tox. 3 (Inhalation - vapour)	H331 Toxic if inhaled.
Acute Tox. 4 (oral)	H302 Harmful if swallowed.
Skin Corr./Irrit. 1A	H314 Causes severe skin burns and eye damage.
Eye Dam./Irrit. 1	H318 Causes serious eye damage.

Specific Concentration Limits According to Regulation (EC) No 1272/2008 [CLP]

Skin Corr./Irrit. 1A: ≥ 90 %
Skin Corr./Irrit. 1B: 10 - < 90 %
Eye Dam./Irrit. 2: 2 - < 10 %
Skin Corr./Irrit. 2: 2 - < 10 %

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:



Signal Word:

Danger

Hazard Statement:

H226	Flammable liquid and vapour.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

Precautionary Statements (Prevention):

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing and eye protection or face protection.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist or vapour.
P243	Take action to prevent static discharges.
P241	Use explosion-proof electrical, ventilating and lighting equipment.
P264	Wash contaminated body parts thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P242	Use only non-sparking tools.
P240	Ground and bond container and receiving equipment.

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Precautionary Statements (Response):

P310 Immediately call a POISON CENTER or physician.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P352 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P370 + P378 In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water spray for extinction.

Precautionary Statements (Storage):

P403 + P235 Store in a well-ventilated place. Keep cool.
P233 Keep container tightly closed.
P405 Store locked up.

Precautionary Statements (Disposal):

P501 Dispose of contents and container to hazardous or special waste collection point.

Labeling of special preparations (GHS):

EUH071: Corrosive to the respiratory tract.

Hazard determining component(s) for labelling: formic acid ... %

2.3. Other hazardsAccording to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/Information on Ingredients**3.1. Substances**Chemical nature

carboxylic acid

Regulatory relevant ingredients

formic acid ... %

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Content (W/W): >= 99 % - <= 100 %	Flam. Liq. 3
CAS Number: 64-18-6	Acute Tox. 3 (Inhalation - vapour)
EC-Number: 200-579-1	Acute Tox. 4 (oral)
INDEX-Number: 607-001-00-0	Skin Corr./Irrit. 1A
	Eye Dam./Irrit. 1
	H226, H331, H302, H314
	EUH071
	<u>Specific concentration limit:</u>
	Skin Corr./Irrit. 1A: >= 90 %
	Skin Corr./Irrit. 1B: 10 - < 90 %
	Eye Dam./Irrit. 2: 2 - < 10 %
	Skin Corr./Irrit. 2: 2 - < 10 %

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Do not induce vomiting. Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:

water spray, dry powder, alcohol-resistant foam, carbon dioxide

5.2. Special hazards arising from the substance or mixture

Endangering substances: carbon monoxide

Advice: The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Special protective equipment:

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

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Breathing protection required. Avoid contact with the skin, eyes and clothing.

6.2. Environmental precautions

Do not empty into drains.

6.3. Methods and material for containment and cleaning up

For large amounts: Pump off product.

For residues: Pick up with suitable absorbent material (e.g. acid binder).

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

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SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Sealed containers should be protected against heat as this results in pressure build-up.

Protection against fire and explosion:

Sources of ignition should be kept well clear.

7.2. Conditions for safe storage, including any incompatibilities

Segregate from alkalies and alkalizing substances.

Suitable materials for containers: Stainless steel 1.4571, Stainless steel 1.4404, High density polyethylene (HDPE), Low density polyethylene (LDPE), glass, HDPE fluorinated

Storage stability:

Storage temperature: < 30 °C

Storage duration: ≤ 36 Months

From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

7.3. Specific end use(s)

See exposure scenario(s) in the attachment to this safety data sheet.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

64-18-6: formic acid ... %

TWA value 9 mg/m³ ; 5 ppm (OEL (EU))
indicative

TWA value 9 mg/m³ ; 5 ppm (OEL (IE))
Indicative OELV

PNEC

freshwater: 2 mg/l

marine water: 0.2 mg/l

intermittent release: 1 mg/l

sediment (freshwater): 13.4 mg/kg

sediment (marine water): 1.34 mg/kg

soil: 1.5 mg/kg

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STP: 7.2 mg/l

DNEL

worker:

Long-term exposure - systemic and local effects, Inhalation: 9.5 mg/m³

consumer:

Long-term exposure - systemic and local effects, Inhalation: 3 mg/m³**8.2. Exposure controls**Personal protective equipment

Respiratory protection:

Suitable respiratory protection for lower concentrations or short-term effect: Gas filter for acid inorganic gases/vapours such as SO₂, HCl (e.g. EN 14387 Type E). Gas filter for gases/vapours of inorganic compounds (e.g. EN 14387 Type B) Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK). Suitable respiratory protection for higher concentrations or long-term effect: Self-contained breathing apparatus.

Consider the risk management measures as outlined in the exposure scenario.

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):

chloroprene rubber (CR) - 0.5 mm coating thickness

butyl rubber (butyl) - 0.7 mm coating thickness

fluoroelastomer (FKM) - 0.7 mm coating thickness

Polyethylene-Laminate (PE laminate) - ca. 0.1 mm coating thickness

Suitable materials for short-term contact (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN ISO 374-1)

polyvinylchloride (PVC) - 0.7 mm coating thickness

natural rubber/natural latex (NR) - 0.5 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Tightly fitting safety goggles (cage goggles) (e.g. EN 166) and face shield.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

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General safety and hygiene measures

Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Avoid contact with skin and eyes. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Hands and/or face should be washed before breaks and at the end of the shift. When using, do not eat, drink or smoke.

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

State of matter:	liquid	
Form:	liquid	
Colour:	colourless to yellow	
Odour:	of formic acid, pungent odour	
Odour threshold:		
	not determined	
Melting point:	8 °C (1,013.25 hPa)	(OECD Guideline 102)
Boiling point:	100.23 °C	(OECD Guideline 103)
Flammability:	Flammable liquid and vapour.	(derived from flash point)
Lower explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Flash point:	49.5 °C	(ISO 13736)
Auto-ignition temperature:	528 °C	(DIN EN 14522)
Thermal decomposition:	350 °C, 0.15 kJ/g (DSC (DIN 51007)) Thermal decomposition above the indicated temperature is possible. It is not a self-decompositionable substance.	
SADT:	Study scientifically not justified.	
pH value:	2.2 (10 g/l, 20 °C)	
Viscosity, kinematic:	1.41 mm ² /s (20 °C)	(DIN 51562)
	0.98 mm ² /s (40 °C)	(DIN 51562)
	0.78 mm ² /s (55 °C)	(DIN 51562)
Viscosity, dynamic:	1.72 mPa.s (20 °C)	(calculated (from kinematic viscosity))
	1.17 mPa.s (40 °C)	(calculated (from kinematic viscosity))
	0.92 mPa.s (55 °C)	(calculated (from kinematic viscosity))

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Solubility in water:	miscible (20 °C, 1,013.25 hPa)	(internal method)
Solubility (qualitative) solvent(s):	N, N-dimethylformamide, 1,4-dioxane, dichloromethane miscible in all proportions	
Partitioning coefficient n-octanol/water (log Kow):	-2.1 (23 °C; pH value: 7.0)	(Directive 92/69/EEC, A.8)
	-1.9 (23 °C; pH value: 5.0)	(Directive 92/69/EEC, A.8)
	-2.3 (23 °C; pH value: 9.0)	(Directive 92/69/EEC, A.8)
Vapour pressure:	42.71 mbar (20 °C)	(OECD Guideline 104)
	54.96 mbar (25 °C)	(OECD Guideline 104)
	170.7 mbar (50 °C)	(OECD Guideline 104)
Relative density:	1.2195 (20 °C)	(OECD Guideline 109)
Density:	1.2196 g/cm ³ (20 °C)	(ISO 2811-3)
	1.1691 g/cm ³ (55 °C)	(ISO 2811-3)
	1.2200 g/cm ³ (15 °C)	
	1.1800 g/cm ³ (50 °C)	
Relative vapour density (air):> 1 (20 °C)	Heavier than air.	(estimated)

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form. -

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

Impact sensitivity:

Based on the chemical structure there is no shock-sensitivity.

Flammable liquids

Sustained combustibility:

not determined

Pyrophoric properties

Self-ignition temperature:

Test type: Spontaneous self-ignition at room-temperature.

Based on its structural properties the product is not classified as self-igniting.

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Self-heating substances and mixtures

Self heating ability: not applicable, the product is a liquid

Substances and mixtures, which emit flammable gases in contact with water

Formation of flammable gases:

Forms no flammable gases in the presence of water.

Corrosion to metals

0.9 mm/a

(UN Test C.1 (corrosive to metals))

No corrosive effect on metal.

0.9 mm/a

(UN Test C.1 (corrosive to metals))

No corrosive effect on metal.

Other safety characteristics

Miscibility with water:

miscible in all proportions

pK_A:

3.70

(OECD Guideline 112)

(20 °C)

Adsorption/water - soil:

KOC: < 17.8; log KOC: 1.25

(OECD Guideline 121)

Surface tension:

71.5 mN/m

(OECD-Guideline 115)

(20 °C; 1 g/l)

Molar mass:

46.03 g/mol

SAPT-Temperature:

Study scientifically not justified.

Evaporation rate:

Value can be approximated from Henry's Law Constant or vapor pressure.

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

Corrosion to metals: No corrosive effect on metal.

No corrosive effect on metal.

Formation of

Remarks:

flammable gases:

Forms no flammable gases in the presence of water.

10.2. Chemical stability

Slow decomposition possible.

10.3. Possibility of hazardous reactions

Exothermic reaction. Reacts with alkalis. Reacts with amines. The formation of gaseous decomposition products builds up pressure in tightly closed containers.

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10.4. Conditions to avoid

Temperature: > 30 °C

10.5. Incompatible materials

Substances to avoid:

bases, non-coated metals, base metals

10.6. Hazardous decomposition products

Hazardous decomposition products:

carbon monoxide

SECTION 11: Toxicological Information

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

Acute toxicity

Assessment of acute toxicity:

Of moderate toxicity after single ingestion. Of pronounced toxicity after short-term inhalation.

Experimental/calculated data:

LD50 rat (oral): 730 mg/kg (OECD Guideline 401)

LC50 rat (by inhalation): 7.85 mg/l 4 h (BASF-Test)

The vapour was tested.

(dermal):No data available. Study scientifically not justified.

Irritation

Assessment of irritating effects:

Highly corrosive! Damages skin and eyes.

Experimental/calculated data:

Skin corrosion/irritation

rabbit: Corrosive. (OECD Guideline 404)

Literature data.

Serious eye damage/irritation

: Study scientifically not justified. As the product corrodes the skin, it can be expected to have a similar effect on the eyes also.

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Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:

Buehler test guinea pig: Non-sensitizing. (OECD Guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:

No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in an insect test.

Carcinogenicity

Assessment of carcinogenicity:

In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Developmental toxicity

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Corrosive to the respiratory tract.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

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No substance-specific organotoxicity was observed after repeated administration to animals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aspiration hazard

No aspiration hazard expected.

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACH Article 59 for having endocrine disrupting properties.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

The product gives rise to pH shifts.

Toxicity to fish:

LC50 (96 h) 130 mg/l, *Brachydanio rerio* (OECD 203; ISO 7346; 92/69/EEC, C.1, static)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic invertebrates:

EC50 (48 h) 365 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. The statement of the toxic effect relates to the analytically determined concentration.

Aquatic plants:

EC50 (72 h) 1,240 mg/l (growth rate), *Selenastrum capricornutum* (OECD Guideline 201, static)

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The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

EC50 (72 h) 32.64 mg/l (growth rate), *Scenedesmus subspicatus* (DIN 38412 Part 9, static)

The details of the toxic effect relate to the nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample.

Microorganisms/Effect on activated sludge:

EC10 (13 d) 72 mg/l, activated sludge, domestic, non-adapted (other, aerobic)

Chronic toxicity to fish:

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d) \geq 100 mg/l, *Daphnia magna* (OECD Guideline 211, semistatic)

The statement of the toxic effect relates to the analytically determined concentration. The product will cause changes in the pH value of the test system. The result refers to a neutralized sample. No effects at the highest test concentration.

Assessment of terrestrial toxicity:

No data available.

Study scientifically not justified.

Soil living organisms:

Literature data.

Terrestrial plants:

Literature data.

Other terrestrial non-mammals:

LD50 (18 h) \geq 111 mg/kg, *Agelaius phoeniceus*

Literature data.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to OECD criteria).

Elimination information:

100 % DOC reduction (9 d) (OECD 301E/92/69/EEC, C.4-B) (aerobic, municipal sewage treatment plant effluent)

Assessment of stability in water:

According to structural properties, hydrolysis is not expected/probable.

Information on Stability in Water (Hydrolysis):

$t_{1/2} > 5$ d (50 °C, pH value 4), (Directive 92/69/EEC, C.7, pH 4)

$t_{1/2} > 5$ d (50 °C, pH value 7), (Directive 92/69/EEC, C.7, pH 7)

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$t_{1/2} > 5 \text{ d}$ (50 °C, pH value 9), (Directive 92/69/EEC, C.7, pH 9)

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

Significant accumulation in organisms is not to be expected.

Bioaccumulation potential:

Significant accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6. Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACH Article 59 for having endocrine disrupting properties.

12.7. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.8. Additional information

Sum parameter

Chemical oxygen demand (COD): 348 mg/g

Biochemical oxygen demand (BOD) Incubation period 5 d: 86 mg/g

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SECTION 13: Disposal Considerations

13.1. Waste treatment methods

A waste code in accordance with the European waste catalog (EWC) cannot be specified, due to dependence on the usage.

The waste code in accordance with the European waste catalog (EWC) must be specified in cooperation with disposal agency/manufacturer/authorities.

Incinerate in suitable incineration plant, observing local authority regulations.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

UN number or ID number: UN1779
UN proper shipping name: FORMIC ACID

Transport hazard class(es): 8, 3
Packing group: II
Environmental hazards: no
Special precautions for user: Tunnel code: D/E

RID

UN number or ID number: UN1779
UN proper shipping name: FORMIC ACID

Transport hazard class(es): 8, 3
Packing group: II
Environmental hazards: no
Special precautions for user: None known

Inland waterway transport

ADN

UN number or ID number: UN1779
UN proper shipping name: FORMIC ACID

Transport hazard class(es): 8, 3
Packing group: II

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Environmental hazards: no
Special precautions for user: None known

Transport in inland waterway vessel

UN number or ID number: UN1779
UN proper shipping name: FORMIC ACID

Transport hazard class(es): 8, 3, N3
Packing group: II
Environmental hazards: yes
Type of inland waterway vessel: N
Cargo tank design: 2
Cargo tank type: 3

Sea transport

IMDG

UN number or ID number: UN 1779
UN proper shipping name: FORMIC ACID

Transport hazard class(es): 8, 3
Packing group: II
Environmental hazards: no
Marine pollutant: NO
Special precautions for user: EmS: F-E; S-C

Air transport

IATA/ICAO

UN number or ID number: UN 1779
UN proper shipping name: FORMIC ACID

Transport hazard class(es): 8, 3
Packing group: II
Environmental hazards: No Mark as dangerous for the environment is needed
Special precautions for user: None known

14.1. UN number or ID number

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See corresponding entries for "UN number or ID number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Regulation:	IBC-Code
Product name:	Formic acid (over 85%)
Pollution category:	Y
Ship Type:	3

SECTION 15: Regulatory Information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 3, 40, 75, 75

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):

List entry in regulation: H2

List entry in regulation: P5c

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If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Skin Corr./Irrit. 1A

Flam. Liq. 3

Eye Dam./Irrit. 1

Acute Tox. 4 (oral)

Acute Tox. 3 (Inhalation - vapour)

Flam. Liq. Flammable liquids

Acute Tox. Acute toxicity

Skin Corr./Irrit. Skin corrosion/irritation

Eye Dam./Irrit. Serious eye damage/eye irritation

H226 Flammable liquid and vapour.

H331 Toxic if inhaled.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

EUH071 Corrosive to the respiratory tract.

Abbreviations

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the

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responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.