

Safety Data Sheet

Amasil® 99

Revision date : 2025/10/01

Version: 8.0

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(30041107/SDS_GEN_CA/EN)

1. Identification

Product identifier used on the label

Amasil® 99

Recommended use of the chemical and restriction on use

Recommended use*: feed additive(s)

Recommended use*: for industrial use only

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF Canada Inc.
5025 Creekbank Road
Building A, Floor 2
Mississauga, ON, L4W 0B6, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Molecular formula: CH₂O₂

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2022-272)

Classification of the product

Flam. Liq.	3	Flammable liquids
Acute Tox.	3 (Inhalation - vapour)	Acute toxicity
Acute Tox.	4 (oral)	Acute toxicity
Skin Corr.	1A	Skin corrosion
Eye Dam.	1	Serious eye damage

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Label elements

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.
P260	Do not breathe mist or vapour or spray.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243	Take action to prevent static discharges.
P241	Use explosion-proof electrical, ventilating and lighting equipment.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.
P240	Ground and bond container and receiving equipment.
P242	Use non-sparking tools.

Precautionary Statements (Response):

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 physician.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water spray for extinction.

Precautionary Statements (Storage):

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

Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.
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Hazards not otherwise classified

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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.

Labeling of special preparations (GHS):
Corrosive to the respiratory tract.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2022-272)

Formic Acid

CAS Number: 64-18-6
Content (W/W): ≥ 99.0 - $\leq 100.0\%$
Synonym: No data available.

4. First-Aid Measures

Description of first aid measures

General advice:

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. Assist in breathing if necessary. Seek medical attention.

If on skin:

Wash affected areas thoroughly with soap and water. Remove contaminated clothing. If irritation develops, seek medical attention.

If in eyes:

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Immediate medical attention required.

If swallowed:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting. Immediate medical attention required.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause: vomiting, aspiration pneumonia, circulatory collapse, death, acidosis, abdominal cramps, dyspnea, hypotension (low blood pressure), nausea, diarrhea, salivation

Hazards: No applicable information available.

Indication of any immediate medical attention and special treatment needed

Note to physician

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

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5. Fire-Fighting Measures

Suitable extinguishing media:
water spray, dry powder, alcohol-resistant foam, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide,
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
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.

Impact Sensitivity:

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

Do not empty into drains.

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).

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Only use containers equipped with adequately sized pressure relief devices. 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.

Conditions for safe storage, including any incompatibilities

Segregate from alkalies and alkalizing substances.

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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

The specified storage temperature is recommended to keep the decomposition rate low.

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

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Formic Acid	ACGIH, US:	TWA value 5 ppm ;
	OSHA Z1:	PEL 5 ppm 9 mg/m3 ;

Personal protective equipment

Respiratory protection:

Breathing protection if gases/vapours are formed. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves should be worn to prevent all skin contact., Suitable materials may include, chloroprene rubber (Neoprene), butyl rubber, fluoroelastomer (Viton), Consult with glove manufacturer for testing data., Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Tightly fitting safety goggles (chemical goggles) and face shield.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Wash soiled clothing immediately.

9. Physical and Chemical Properties

Physical state:	liquid
Form:	liquid
Odour:	of formic acid, pungent odour
Odour threshold:	not determined
Colour:	colourless to yellow
pH value:	2.2 (10 g/l, 20 °C)

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Melting point:	8 °C (1,013.25 hPa)	(OECD Guideline 102)
Freezing point:	No data available.	
Boiling point:	100.23 °C	(OECD Guideline 103)
Sublimation point:	No applicable information available.	
Flash point:	49.5 °C	(ISO 13736)
Flammability:	Flammable liquid and vapour.	(derived from flash point)
Lower explosion limit:	12 %(V) (43 °C)	
Upper explosion limit:	38 %(V) (43 °C)	
Autoignition:	528 °C	(DIN EN 14522)
SADT:	Study scientifically not justified.	
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)
Density:	1.2196 g/cm3 (20 °C)	(ISO 2811-3)
	1.1691 g/cm3 (55 °C)	(ISO 2811-3)
	1.2200 g/cm3 (15 °C)	
	1.1800 g/cm3 (50 °C)	
Relative density:	1.2195 (20 °C)	(OECD Guideline 109)
Relative vapour density:	> 1 (20 °C)	(estimated)
	Heavier than air.	
Partitioning coefficient n-octanol/water (log Pow):	-2.1 (23 °C)	(Directive 92/69/EEC, A.8)
	-1.9 (23 °C)	(Directive 92/69/EEC, A.8)
	-2.3 (23 °C)	(Directive 92/69/EEC, A.8)
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.	
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.	
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))
Viscosity, kinematic:	1.41 mm2/s (20 °C)	(DIN 51562)
	0.98 mm2/s (40 °C)	(DIN 51562)

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	0.78 mm ² /s (55 °C) (20 °C, 1,013.25 hPa)	(DIN 51562)
Solubility in water:	miscible	
Miscibility with water:	miscible in all proportions	
Solubility (quantitative):	No data available.	
Solubility (qualitative):	miscible in all proportions	
	solvent(s): N,N-dimethylformamide, 1,4-dioxane, dichloromethane	
Molecular weight:	46.03 g/mol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

Particle characteristics

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

10. Stability and Reactivity

Reactivity

No applicable information available.

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.

Chemical stability

Slow decomposition possible.

Possibility of hazardous reactions

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

Conditions to avoid

Temperature: > 44 degrees Celsius

Incompatible materials

bases, amines

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: carbon monoxide

Thermal decomposition:

350 °C, 2.5 K/min (DSC (DIN 51007))

Thermal decomposition above the indicated temperature is possible. It is not a self-decomposable substance.

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11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Of pronounced toxicity after short-term inhalation.

Oral

Type of value: LD50

Species: rat (male/female)

Value: 730 mg/kg (OECD Guideline 401)

Inhalation

Type of value: LC50

Species: rat (male/female)

Value: 7.85 mg/l (BASF-Test)

Exposure time: 4 h

The vapour was tested.

Dermal

No data available. Study scientifically not justified.

Assessment other acute effects

Assessment of STOT single:

Corrosive to the respiratory tract.

Irritation / corrosion

Assessment of irritating effects: Highly corrosive! Damages skin and eyes.

Skin

Species: rabbit

Result: Corrosive.

Method: OECD Guideline 404

Literature data.

Eye

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

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Buehler test

Species: guinea pig

Result: Non-sensitizing.

Method: OECD Guideline 406

Aspiration Hazard

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No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: 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.

Genetic toxicity

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. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

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.

Teratogenicity

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.

12. Ecological Information

Toxicity

Aquatic 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/EWG, 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), Selastrum 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.

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

Toxicity to soil dwelling organisms:
Literature data.

Toxicity to terrestrial plants

Literature data.

Other terrestrial non-mammals
LD50 (18 h) \geq 111 mg/kg, *Agelaius phoeniceus*
Literature data.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
OECD Guideline 209 aerobic
activated sludge, domestic, non-adapted/EC10 (3 h): $>$ 500 mg/l
No effects at the highest test concentration. Nominal concentration.

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/EWG, 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)

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

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

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.

Mobility in soil

Assessment transport between environmental compartments

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

Adsorption to solid soil phase is not expected.

Additional information

Sum parameter

Chemical oxygen demand (COD): 348 mg/g

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

13. Disposal considerations

Waste disposal of substance:

Incinerate in suitable incineration plant, observing local authority regulations.

Container disposal:

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

14. Transport Information

Land transport

TDG

Hazard class:	8
Packing group:	II
ID number:	UN 1779
Hazard label:	8, 3
Proper shipping name:	FORMIC ACID

Sea transport

IMDG

Hazard class:	8
Packing group:	II
ID number:	UN 1779
Hazard label:	8, 3
Marine pollutant:	NO

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Proper shipping name: FORMIC ACID

Air transport

IATA/ICAO

Hazard class: 8

Packing group: II

ID number: UN 1779

Hazard label: 8, 3

Proper shipping name: FORMIC ACID

15. Regulatory Information

Federal Regulations

Registration status:

Chemical DSL, CA released / listed

Biocide DSL, CA blocked / not listed

Crop Protection DSL, CA blocked / not listed

NFPA Hazard codes:

Health: 3 Fire: 2 Reactivity: 0 Special:

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

Skin Corr.	1A	Skin corrosion
Flam. Liq.	3	Flammable liquids
Eye Dam.	1	Serious eye damage
Acute Tox.	4 (oral)	Acute toxicity
Acute Tox.	3 (Inhalation - vapour)	Acute toxicity

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2025/10/01

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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Date / Revised: 2025/10/01

Date / Previous version: 2024/08/28

Version: 8.0

Previous version: 7.0

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