

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Product name: Glycolic Acid - Commercial Grade E

Relevant identified uses of the substance or mixture and uses advised against:

Use of the Substance/Mixture: This product may be used as a biocidal active substance in accordance with Regulation (EU) 528/2012, if the appropriate local authorisations have been obtained, Formulation, Distribution, Storage, Cleaning agent, Processing aid, For further information see Annex - Exposure scenario, For professional users only.

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Skin corrosion, Category 1B H314: Causes severe skin burns and eye damage.
Acute toxicity, Category 4 H332: Harmful if inhaled.

Label elements:



Danger

H314 Causes severe skin burns and eye damage.

H332 Harmful if inhaled.

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P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ 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.

P501 Dispose of container to a waste disposal plant in accordance with local, regional and national legislations.

Other hazards: Non-classified PBT substance
Non-classified vPvB substance

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances: Not applicable

Mixtures:

Registration number	Classification according to Regulation (EU) 1272/2008 (CLP)	Concentration (% w/w)
Glycolic acid (CAS-No.79-14-1) (EC-No.201-180-5)		
01-2119485579-17	Acute Tox. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318	70 %
Formic acid...% (CAS-No.64-18-6) (EC-No.200-579-1)		
	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 3; H331 Skin Corr. 1A; H314	< 1 %
Methoxyacetic acid (CAS-No.625-45-6) (EC-No.210-894-6)		
	Acute Tox. 4; H302 Skin Corr. 1B; H314 Repr. 1B; H360FD 1; H318	< 0.3 %

The above products are compliant to REACH registration obligations; Registration number(s) may not be provided because substance(s) are exempted, not yet registered under REACH or are registered under another regulatory process (biocide uses, plant protection products), etc. For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

Description of first aid measures:

General advice: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Inhalation: Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician.

Skin contact: Wash off immediately with plenty of water. Take off all contaminated clothing immediately. Consult a physician. Wash contaminated clothing before re-use.

Eye contact: Rinse immediately with plenty of water and seek medical advice.

Ingestion: Do NOT induce vomiting. Call a physician immediately. Never give anything by mouth to an unconscious person.

[cont...]

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Most important symptoms and effects, both acute and delayed:

Symptoms:

Inhalation: May provoke the following symptoms: Cough, Shortness of breath, Pain, Local irritation.

Skin contact: May provoke the following symptoms: Irritation, Rash, Necrosis, Discomfort.

Eye contact: May provoke the following symptoms: Corrosion, Ulceration, Severe irritation.

Ingestion: May provoke the following symptoms: Vomiting, Diarrhoea, Gastrointestinal disturbance, abdominal pain.

Indication of any immediate medical attention and special treatment needed:

Treatment: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special hazards arising from the substance or mixture: no data available

Advice for firefighters:

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit.

Further information: Will react with most metals, releasing potentially explosive hydrogen gas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal precautions: Use personal protective equipment.

Environmental precautions: Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Methods for cleaning up: Neutralise spill with lime or soda ash.

Reference to other sections: For personal protection see section 8. For disposal instructions see section 13.

7. HANDLING AND STORAGE

Precautions for safe handling:

Advice on safe handling: Avoid breathing mist. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Wear personal protective equipment. Provide sufficient air exchange and/or exhaust in work rooms.

Dust explosion class: Not applicable

Conditions for safe storage, including any incompatibilities:

Requirements for storage areas and containers: Keep in a well-ventilated place. Keep tightly closed. Keep away from heat.

Storage temperature: < 50 °C

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Control parameters:** If sub-section is empty then no values are applicable.**Components with workplace control parameters:****Formic acid...% (CAS-No. 64-18-6)**

Type form of exposure	Control parameters	Update	Regulatory basis	Remarks
Time Weighted Average (TWA):	9.6 mg/m3 5 ppm	2007	UK. EH40 Workplace Exposure Limits (WELs)	
Time Weighted Average (TWA):	9 mg/m3 5 ppm	12 2009	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU	Indicative

Derived No Effect Level (DNEL):**Glycolic acid:**

Type of Application (Use): Workers
Exposure routes: Inhalation
Health Effect: Acute - systemic effects
Value: 9.2 mg/m3

Type of Application (Use): Workers
Exposure routes: Inhalation
Health Effect: Acute - local effects
Value: 9.2 mg/m3

Type of Application (Use): Workers
Exposure routes: Skin contact
Health Effect: Long-term - systemic effects
Value: 57.69 mg/kg body weight (bw)/day

Type of Application (Use): Workers
Exposure routes: Inhalation
Health Effect: Long-term - systemic effects
Value: 10.56 mg/m3

Type of Application (Use): Workers
Exposure routes: Inhalation
Health Effect: Long-term - local effects
Value: 1.53 mg/m3

Type of Application (Use): Consumer use
Exposure routes: Inhalation
Health Effect: Acute - systemic effects
Value: 2.3 mg/m3

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Type of Application (Use): Consumer use

Exposure routes: Skin contact

Health Effect: Long-term - systemic effects

Value: 28.85 mg/kg body weight (bw)/day

Type of Application (Use): Consumer use

Exposure routes: Inhalation

Health Effect: Long-term - local effects

Value: 2.3 mg/m³

Type of Application (Use): Consumer use

Exposure routes: Ingestion

Health Effect: Long-term - systemic effects

Value: 0.75 mg/kg body weight (bw)/day

Type of Application (Use): Consumer use

Exposure routes: Inhalation

Health Effect: Long-term - systemic effects

Value: 2.6 mg/m³**Predicted No Effect Concentration (PNEC):**

Glycolic acid: Value: 0.0312 mg/l

Compartment: Fresh water

Value: 0.0031 mg/l

Compartment: Marine water

Value: 0.312 mg/l

Compartment: Intermittent use/release

Value: 0.115 mg/kg

Compartment: Fresh water sediment

Value: 0.0115 mg/kg

Compartment: Marine sediment

Value: 0.007 mg/kg

Compartment: Soil

Value: 7 mg/l

Compartment: Sewage treatment plants

Value: 16.66 mg/kg

Compartment: Oral (food chain)

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Exposure controls:**Engineering measures:** Use only with adequate ventilation.**Eye protection:** Wear coverall chemical splash goggles.**Hand protection:** Material: Impervious gloves

Material: Chloroprene

Break through time: > 480 min

Glove thickness: 0.6 mm

Skin and body protection: Where there is potential for skin contact have available and wear as appropriate:

Complete suit protecting against chemicals.

Respiratory protection: Provide adequate ventilation. Breathing apparatus needed only when aerosol or mist is formed.**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties:****Form:** liquid**Colour:** light yellow**Odour:** mild, of burnt sugar**pH:** 0.1 at (25 °C)**Solidification point:** 10 °C**Boiling point:** 112 °C at 1,013 hPa**Flash point:** > 100 °C, Method: ASTM D 56**Flammability (solid, gas):** The product is not flammable.**Ignition temperature:****Oxidizing properties:** The product is not oxidizing.**Explosive properties:** Not explosive**Vapour pressure:** 0.0041 hPa at 25 °C, (for a component of this mixture)**Relative density:** 1.27 at 20 °C**Water solubility:** Completely miscible: > 300 g/l at 22 °C, (for a component of this mixture)**Partition coefficient: noctanol/ water:** log Pow: -1.07 at 25 °C, (for a component of this mixture)**Viscosity, kinematic:** 6,149 mm²/s at 23 °C**Other information:** No data available**10. STABILITY AND REACTIVITY****Reactivity:** Stable under recommended storage conditions.**Chemical stability:** Stable**Possibility of hazardous reactions:** Polymerization will not occur.**Conditions to avoid:** No data available**Incompatible materials:** Oxidizing agents

Cyanides

Sulphides

Active metals (such as sodium, potassium, magnesium)

Hazardous decomposition products: No decomposition if used as directed.

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11. TOXICOLOGICAL INFORMATION**Information on toxicological effects:****Acute oral toxicity:****Glycolic acid:****LD50 / Rat:** 2,040 mg/kg**Method:** US EPA Test Guideline OPP 81-1**Formic acid...%:****LD50 / Rat:** 730 mg/kg**Methoxyacetic acid:****LD50 / Rat:** 1,000 mg/kg**Method:** OECD Test Guideline 401**Acute inhalation toxicity:****Acute toxicity estimate:** 15.71 mg/l**Method:** Calculation method**Glycolic acid:****LC50 / 4 h Rat:** 3.6 mg/l**Method:** OECD Test Guideline 403**Formic acid...%:****LC50 / 4 h Rat:** 7.4 mg/l**Skin irritation:****Glycolic acid:****Rabbit:****Classification:** Causes burns.**Result:** Corrosive after 3 minutes to 1 hour of exposure**Method:** OECD Test Guideline 404**Formic acid...%:****Not tested on animals:****Classification:** Corrosive**Result:** Causes severe burns.**Methoxyacetic acid:****Rabbit:****Classification:** Corrosive**Result:** Causes burns.**Method:** OECD Test Guideline 404

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Eye irritation:**Glycolic acid:****Rabbit:****Classification:** Risk of serious damage to eyes.**Result:** Corrosive**Method:** OECD Test Guideline 405**Formic acid...%:****Not tested on animals:****Classification:** Causes severe burns.**Result:** Corrosive**Methoxyacetic acid:****Rabbit:****Classification:** Causes severe burns.**Result:** Corrosive**Sensitisation:****Glycolic acid:****Guinea pig:****Classification:** Does not cause skin sensitisation.**Result:** Does not cause skin sensitisation.**Method:** OECD Test Guideline 406**Formic acid...%:****Guinea pig:****Classification:** Does not cause skin sensitisation.**Result:** Does not cause skin sensitisation.**Repeated dose toxicity:****Glycolic acid:****Ingestion Rat:****Exposure time:** 90 d**NOAEL:** 150 mg/kg**LOAEL:** 300 mg/kg**Method:** OECD Test Guideline 408

No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification.

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Mutagenicity assessment:

Glycolic acid:	Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Formic acid...%:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Did not cause genetic damage in cultured bacterial cells. Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others. Did not cause genetic damage in insects.
Methoxyacetic acid:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity assessment:

Glycolic acid:	Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.
Formic acid...%:	Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects. Information given is based on data obtained from similar substances.

Toxicity to reproduction assessment:

Glycolic acid:	No toxicity to reproduction animal testing showed no reproductive toxicity. No effects on or via lactation.
Formic acid...%:	No toxicity to reproduction animal testing showed no reproductive toxicity.
Methoxyacetic acid:	Presumed human reproductive toxicant Evidence suggests the substance is not a reproductive toxin in animals.

Assessment teratogenicity:

Glycolic acid:	Animal testing showed effects on embryo-fatal development at levels equal to or above those causing maternal toxicity.
Formic acid...%:	Animal testing showed no developmental toxicity. Information given is based on data obtained from similar substances.
Methoxyacetic acid:	Animal testing showed effects on embryo-foetal development at levels below those causing maternal toxicity.

Human experience:**Excessive exposures may affect human health, as follows:**

Inhalation:	Upper respiratory tract, Mucous membranes, Bronchia: Cough, Shortness of breath, Pain, Local irritation
Skin contact:	Skin: Discomfort, Irritation, Necrosis, Rash
Eye contact:	Eyes: Severe irritation, Corrosion, Ulceration
Ingestion:	Mucous membranes, Stomach, Kidney: Diarrhoea, Vomiting, Gastrointestinal disturbance, Abdominal pain

Further information:	Several developmental toxicity studies have been conducted with ethylene glycol (metabolized to glycolic acid) or with glycolic acid in mammals. The majority of studies conducted with rodents demonstrate developmental toxicity only at high dietary exposure levels which also produce other toxic effects in the adult animal. Based on the weight of evidence, glycolic acid is not considered a unique developmental hazard to the embryo.
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12. ECOLOGICAL INFORMATION

Toxicity:**Toxicity to fish:**

Glycolic acid:	LC50 / 96 h / Pimephales promelas (fathead minnow): 164 mg/l
Formic acid...%:	LC50 / 96 h / Leuciscus idus (Golden orfe): > 46 mg/l Information given is based on data obtained from similar substances.
Methoxyacetic acid:	LC50 / 96 h / Danio rerio (zebra fish): > 500 mg/l

Toxicity to aquatic plants:

Glycolic acid:	ErC50 / 72 h / Pseudokirchneriella subcapitata (green algae): 44 mg/l Method: OECD Test Guideline 201 NOEC / 72 h / Pseudokirchneriella subcapitata (green algae): 20 mg/l Method: OECD Test Guideline 201
Formic acid...%:	ErC50 / 72 h / Algae: 26.9 mg/l
Methoxyacetic acid:	EC50 / 72 h / Desmodesmus subspicatus (green algae): 66.2 mg/l

Toxicity to aquatic invertebrates:

Glycolic acid:	EC50 / 48 h / Daphnia magna (Water flea): 141 mg/l Method: OECD Test Guideline 202
Formic acid...%:	EC50 / 48 h / Daphnia magna (Water flea): 34.2 mg/l
Methoxyacetic acid:	EC50 / 48 h / Daphnia magna (Water flea): 68.3 mg/l

Chronic toxicity to aquatic Invertebrates:

Formic acid...%:	NOEC / 21 d / Daphnia magna (Water flea): 100 mg/l
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Persistence and degradability:

Biodegradability:	Readily biodegradable, according to appropriate OECD test.
Glycolic acid:	Method: OECD Test Guideline 301 Biodegradable
Formic acid...%:	Rapidly biodegradable
Methoxyacetic acid:	Rapidly biodegradable

Bioaccumulative potential**Bioaccumulation:**

Glycolic acid:	Bioaccumulation is unlikely.
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Mobility in soil:

Koc:	1
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Results of PBT and vPvB assessment:

PBT and vPvB assessment:	Non-classified PBT substance / Non-classified vPvB substance
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Other adverse effects:	No data available
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13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Product: Dispose of as hazardous waste in compliance with local and national regulations.
Contaminated packaging: Do not re-use empty containers.

14. TRANSPORT INFORMATION

ADR:

UN number: 3265
UN proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Glycolic acid)
Transport hazard class(es): 8
Packing group: II
Environmental hazards: For further information see Section 12.
Special precautions for user:
Tunnel restriction code: (E)

IATA_C:

UN number: 3265
UN proper shipping name: Corrosive liquid, acidic, organic, n.o.s. (Glycolic acid)
Transport hazard class(es): 8
Packing group: II
Environmental hazards: For further information see Section 12.
Special precautions for user:

IMDG:

UN number: 3265
UN proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Glycolic acid)
Transport hazard class(es): 8
Packing group: II
Environmental hazards: For further information see Section 12.
Special precautions for user: No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):

Listed Substance: Methoxyacetic acid (CAS-No.625-45-6) (EC-No.210-894-6)

For further information please refer to the regulation and relevant amendments.

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC):

Listed Substance: Methoxyacetic acid (CAS-No.625-45-6) (EC-No.210-894-6)

List number: 30

For information on uses please refer to Section 1.

For further information please refer to the list number in the regulation and relevant amendments.

[cont...]

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Chemical Safety Assessment: A Chemical Safety Assessment has been carried out for this substance.

Note: The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Full text of H-Statements referred to under section 3:

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H360FD May damage fertility. May damage the unborn child.

Abbreviations and acronyms: ADR European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE Acute toxicity estimate
CAS-No. Chemical Abstracts Service number
CLP Classification, Labelling and Packaging
EbC50 Concentration at which 50% reduction of biomass is observed
EC50 Median effective concentration
EN European Norm
EPA Environmental Protection Agency
ErC50 Concentration at which a 50% inhibition of growth rate is observed
EyC50 Concentration at which 50 % inhibition of yield is observed
IATA_C International Air Transport Association (Cargo)
IBC International Bulk Chemical Code
ICAO International Civil Aviation Organization
ISO International Standard Organization
IMDG International Maritime Dangerous Goods
LC50 Median Lethal Concentration
LD50 Median Lethal Dose
LOEC Lowest Observed Effect Concentration
LOEL Lowest observed effect level
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.o.s. Not Otherwise Specified
NOAEC No Observed Adverse Effect Concentration
NOAEL No observed adverse effect level
NOEC No Observed Effect Concentration
NOEL No Observed Effect Level
OECD Organisation for Economic Co-operation and Development

[cont...]

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OPPTS Office of Prevention, Pesticides and Toxic Substances

PBT Persistent, Bioaccumulative and Toxic

STEL Short term exposure limit

TWA Time Weighted Average (TWA):

vPvB very Persistent and very Bioaccumulative

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.