

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

1.1 Product identifier

Trade name: L.O.G. four

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

Application of the substance / the mixture

Ready-to-use, aqueous solution for disinfection of ambient air and surfaces.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

AirSolution GmbH

Walther-Jacobs-Straße 7

28309 Bremen

Germany

T: +49 (0) 421 - 458 55 32

F: +49 (0) 421 - 458 55 33

E-Mail: office@airsolution.de

Further information obtainable from: Email: office@airsolution.de

1.4 Emergency telephone number:

+49 (0) 421 - 458 55 32

Available during office hours:

Mo – Fr: 08:00 - 16:00 h

Please contact the regional poison center or emergency call.

Germany:

Giftinformationszentrum-Nord

(+49) 551-19240, Available 24 h

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified, according to the CLP regulation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

Additional information:

Product contains: Reportable explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 9.

EUH210 Safety data sheet available on request.

2.3 Other hazards

After contact with skin, the product can cause slight, temporary whitish discoloration due to the contained hydrogen peroxide.

(Contd. on page 2)

Trade name: L.O.G. four

(Contd. of page 1)

Results of PBT and vPvB assessment

PBT: The mixture does not contain PBT substances $\geq 0,1$ %.

vPvB: The mixture does not contain vPvB substances $\geq 0,1$ %.





*** SECTION 3: Composition/information on ingredients**

3.2 Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

[% (w/w)]

<p>CAS: 7722-84-1 EINECS: 231-765-0 Index number: 008-003-00-9 Reg.nr.: 01-2119485845-22-XXXX</p>	<p>hydrogen peroxide solution</p> <p> Ox. Liq. 1, H271  Skin Corr. 1A, H314  Acute Tox. 4, H302; Acute Tox. 4, H332; STOT SE 3, H335 Aquatic Chronic 3, H412 Specific concentration limits: Skin Corr. 1A; H314: $C \geq 70\%$ Skin Corr. 1B; H314: $50\% \leq C < 70\%$ Skin Irrit. 2; H315: $35\% \leq C < 50\%$ Eye Dam. 1; H318: $C \geq 8\%$ Eye Irrit. 2; H319: $5\% \leq C < 8\%$ STOT SE 3; H335: $C \geq 35\%$ Ox. Liq. 1; H271: $C \geq 70\%$ Ox. Liq. 2; H272: $50\% \leq C < 70\%$</p>	<p>3.5 – 3.8%</p>
<p>CAS: 79-33-4 EINECS: 201-196-2 Index number: 607-743-00-5 Reg.nr.: 01-2119474164-39-XXXX</p>	<p>L-Lactic acid (2-hydroxy propionic acid)</p> <p> Skin Corr. 1C, H314; Eye Dam. 1, H318 EUH071</p>	<p>0.15 - 0.3%</p>

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

In case of discomfort or doubt, seek medical advice.

If unconscious, use a stable lateral position and do not administer anything through mouth.

Take off contaminated clothing.

After inhalation:

Supply fresh air; consult doctor in case of complaints.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Wash with plenty of soap and water.

Take off contaminated clothing and wash it before reuse.

Seek medical treatment in case of complaints.

(Contd. on page 3)

Trade name: L.O.G. four

(Contd. of page 2)

After eye contact:

Rinse opened eye for several minutes under running water.
Remove contact lenses, if present and easy to do. Continue rinsing.
Seek medical treatment in case of complaints.

After swallowing:

Rinse mouth thoroughly with cold water. Do not induce vomiting.
If the patient is fully conscious, give plenty of water to drink.
Call a doctor immediately.

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

Depending on the condition of the patients, the doctor must assess the symptoms and the overall general condition.

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.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

Non-combustible, but oxidizing.

In case of fire, the following can be released:

CO_x

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Restricted access to the affected area until cleaning work is completed.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid contact with skin and eyes.

6.2 Environmental precautions: Do not allow large quantities to enter drains/surface water/groundwater.

6.3 Methods and material for containment and cleaning up:

Wash away low quantities with water.

Absorb large quantities with liquid binding material (e. g. sand, kieselguhr, Universal binder, acid binder)

Wash away residues with water.

Dispose of the material collected according to regulations.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

(Contd. on page 4)

Trade name: L.O.G. four

(Contd. of page 3)

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Observe general hygiene measures in the working area.

Keep receptacles tightly sealed.

Avoid contact with skin and eyes.

Protect product from contamination.

Observe protective measures and safety instructions.

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:

Store in a dry, cool, well-ventilated area.

Store in accordance with local/regional/national/international regulations.

Avoid prolonged contact with base metals and sensitive materials.

Test material compatibility before use if required.

Information about storage in one common storage facility:

Do not store together with combustible materials, reducing agents and alkalis.

Further information about storage conditions:

Store only in the original receptacle.

Protect from heat and direct sunlight.

Protect from frost.

Recommended storage temperature: cool

Storage class: 12

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS: 7722-84-1 hydrogen peroxide solution

MAK (Austria)	Short-term value: 2.8 mg/m ³ , 2 ppm Long-term value: 1.4 mg/m ³ , 1 ppm
MAK (Germany)	Long-term value: 0.71 mg/m ³ , 0.5 ppm
LEP (Spain)	Long-term value: 1.4 mg/m ³ , 1 ppm
VLEP (France)	Long-term value: 1.5 mg/m ³ , 1 ppm
WEL (Great Britain)	Short-term value: 2.8 mg/m ³ , 2 ppm Long-term value: 1.4 mg/m ³ , 1 ppm
TWA (Italy)	Long-term value: 1.4 mg/m ³ , 1 ppm A3

Regulatory information

MAK (Austria): GKV 2020, 156. Verordnung, 09.04.2021, Teil II

MAK (Germany): MAK- und BAT-Liste

(Contd. on page 5)

Trade name: L.O.G. four

(Contd. of page 4)

LEP (Spain): Límites de exposición profesional para agentes químicos

VLEP (France): ED 1487 05.2021

WEL (Great Britain): EH40/2020

TWA (Italy): Valori Limite di Soglia

DNELs		
CAS: 7722-84-1 hydrogen peroxide solution		
Inhalative	Long-term exposure - local effects	0.21 mg/m ³ (consumer) 1.4 mg/m ³ (workers)
	short-term exposure - local effects	1.93 mg/m ³ (consumer) 3 mg/m ³ (workers)
PNECs		
CAS: 7722-84-1 hydrogen peroxide solution		
fresh water		0.013 mg/l
sea water		0.013 mg/l
intermittent release (fresh water)		0.013 mg/l
STP		4.66 mg/l
sediment (fresh water)		0.047 mg/kg dw
sediment (sea water)		0.047 mg/kg dw
soil		0.002 mg/kg dw
CAS: 79-33-4 L-Lactic acid (2-hydroxy propionic acid)		
fresh water		1.3 mg/l
STP		10 mg/l

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

8.2 Exposure controls

Appropriate engineering controls No further data; see item 7.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Do not eat or drink while working.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Take off contaminated clothing and wash it before reuse.

An eyewash bottle should be made available in the immediate working area.

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Respiratory protection:

Not required if used as prescribed. Wear respiratory protection if workplace limits are exceeded.

Hand protection

Protective gloves (e.g. rubber) are recommended during handling the liquid product.

EN 374

(Contd. on page 6)

Trade name: L.O.G. four

(Contd. of page 5)

Material of gloves

Nitrile rubber, NBR

Butyl rubber, BR

Thickness of glove material ≥ 0.4 mm

Wearing time with occasional contact (splashes): max. 480 min.

Wearing time with permanent contact: max. 240 - 480 min.

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.

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

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/face protection

Safety glasses

EN 166

Body protection: Protective work clothing

Environmental exposure controls

Do not allow large quantities to enter drains/surface water/groundwater.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state

Fluid

Colour:

Colourless

During longer period of storage slight change of colour is possible.

Odour:

characteristic

Odour threshold:

No information available.

Melting point/freezing point:

~ -2 °C

Boiling point or initial boiling point and boiling range

110 °C

Flammability

Not applicable.

Lower and upper explosion limit

Lower:

No information available.

Upper:

No information available.

Flash point:

Not applicable.

Decomposition temperature:

No information available.

pH at 20 °C

~ 2.8

Viscosity:

Kinematic viscosity

No information available.

Dynamic:

No information available.

Solubility

water:

Fully miscible.

(Contd. on page 7)

Trade name: L.O.G. four

(Contd. of page 6)

Partition coefficient n-octanol/water (log value)

7722-84-1	hydrogen peroxide solution	-1,57 log Kow
79-33-4	L-Lactic acid (2-hydroxy propionic acid)	-0,54 log Kow

Vapour pressure at 20 °C: ~20 hPa
Density and/or relative density
Density at 20 °C: 1.013 g/cm³
Vapour density No information available.

9.2 Other information

Appearance:

Form: Fluid

Important information on protection of health and environment, and on safety.

Auto-ignition temperature: No information available.

Explosive properties: Product does not present an explosion hazard.

Change in condition

Softening point/range

Oxidising properties Oxidising properties.

Evaporation rate No information available.

Information with regard to physical hazard classes

Explosives Void
Flammable gases Void
Aerosols Void
Oxidising gases Void
Gases under pressure Void
Flammable liquids Void
Flammable solids Void
Self-reactive substances and mixtures Void
Pyrophoric liquids Void
Pyrophoric solids Void
Self-heating substances and mixtures Void
Substances and mixtures, which emit flammable gases in contact with water Void
Oxidising liquids Void
Oxidising solids Void
Organic peroxides Void
Corrosive to metals Void
Desensitised explosives Void

SECTION 10: Stability and reactivity

10.1 Reactivity

Avoid contamination of the mixture. The natural decomposition of hydrogen peroxide will be accelerated.

10.2 Chemical stability The mixture is stable for at least 12 months if stored as prescribed.

(Contd. on page 8)

Trade name: L.O.G. four

(Contd. of page 7)

10.3 Possibility of hazardous reactions No dangerous reactions known.

10.4 Conditions to avoid Heating, light.

10.5 Incompatible materials: Avoid prolonged contact with base metals and sensitive materials.

10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

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

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	18,255 – 29,314 mg/kg (rat)
Inhalative	LC50/4 h	289 – 314 mg/l

CAS: 7722-84-1 hydrogen peroxide solution

Oral	LD50	693.7 – 1.026 mg/kg (rat)
Dermal	LD50	> 6,000 mg/kg (rabbit) 70 % i.S.
Inhalative	LC50/4h	> 0.17 mg/m ³ (rat) 50 % i.S.

CAS: 79-33-4 L-Lactic acid (2-hydroxy propionic acid)

Oral	LD50	3,543 mg/kg (rat)
Dermal	LD50	4,936 mg/kg (rat)

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Skin contact can cause whitish discoloration.

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Slight irritation possible.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

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.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

(Contd. on page 9)

Trade name: L.O.G. four

(Contd. of page 8)

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

CAS: 7722-84-1 hydrogen peroxide solution

EC50 (48 h)	2.4 mg/l (daphnia) (Daphnia pulex)
LC50 (96 h)	16.4 mg/l (fish) (Pimephales promelas)
NOEC (72 h)	0.63 mg/l (algae) (Skeletonema costatum)
ErC50 (72 h)	1.38 mg/l (algae)

CAS: 79-33-4 L-Lactic acid (2-hydroxy propionic acid)

EC50 (48 h)	130 mg/l (daphnia) (Daphnia magna)
EC50 (72 h)	> 2.8 mg/l (algae) (Pseudokirchneriella subcapitata)
LC50 (96 h)	130 mg/l (fish) (Onchorhynchus mykiss)

12.2 Persistence and degradability

Hydrogen peroxide:

Easily biodegradable

79-33-4	L-Lactic acid (2-hydroxy propionic acid)	> 60 % (28 d)
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12.3 Bioaccumulative potential

Non significant accumulation in organisms

7722-84-1	hydrogen peroxide solution	-1,57 log Kow
79-33-4	L-Lactic acid (2-hydroxy propionic acid)	-0,54 log Kow

12.4 Mobility in soil

No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: The mixture does not contain PBT substances $\geq 0,1$ %.

vPvB: The mixture does not contain vPvB substances $\geq 0,1$ %.

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Any disposal practice must be in compliance with all local and national laws and regulations.

Customers are advised to check their local legislation governing the disposal of waste materials.

If this preparation becomes a waste, the final user must define and assign the appropriate European Waste Catalogue code. Use only authorized contractors.

Do not allow large quantities to enter into surface water, ground water or drains.

(Contd. on page 10)

Trade name: L.O.G. four

(Contd. of page 9)

European waste catalogue

Notes: The European Waste Catalogue (EWC) classifies waste materials and categorises them according to what they are and how they were produced. This may cause other classifications. The final decision belongs to the last user.

16 09 03*	peroxides, for example hydrogen peroxide
HP4	Irritant - skin irritation and eye damage

Uncleaned packaging:

Recommendation:

Dispose of packaging according to regulations on the disposal of packagings.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN, IMDG, IATA not regulated

14.2 UN proper shipping name

ADR/RID/ADN, IMDG, IATA not regulated

14.3 Transport hazard class(es)

ADR/RID/ADN, ADN, IMDG, IATA

Class not regulated

14.4 Packing group

ADR/RID/ADN, IMDG, IATA not regulated

14.5 Environmental hazards: Not applicable.

14.6 Special precautions for user Not applicable.

14.7 Maritime transport in bulk according to IMO

instruments Not applicable.

UN "Model Regulation": not regulated

*** 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 None of the ingredients is listed.

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

(Contd. on page 11)

Trade name: L.O.G. four

(Contd. of page 10)

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

National regulations:

Information about limitation of use: Employment restrictions concerning juveniles must be observed.

Other regulations, limitations and prohibitive regulations

The product is subject to the Biocide Regulation (EU) No. 528/2012.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

All materials may present unknown hazards and should be used with caution and only for identified uses described in section 1. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Relevant phrases

- H271 May cause fire or explosion; strong oxidiser.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H412 Harmful to aquatic life with long lasting effects.
- EUH071 Corrosive to the respiratory tract.

Training hints

Before handling, storage or use for the first time, employees must be informed about the properties of the substance and about measures taken to ensure safety and environmental protection.

Department issuing SDS:

UmEnA GmbH
<http://umena.at>
Email: office@umena.at

Date of previous version: 26.07.2021

Version number of previous version: 1.1

Abbreviations and acronyms:

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
ELINCS: European List of Notified Chemical Substances

(Contd. on page 12)

Trade name: L.O.G. four

(Contd. of page 11)

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

Ox. Liq. 1: Oxidizing liquids – Category 1

Acute Tox. 4: Acute toxicity – Category 4

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

Skin Corr. 1C: Skin corrosion/irritation – Category 1C

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

*** Data compared to the previous version altered.**