

Safety data sheet

according to ChemO 2015 - SR 813.11

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

1.1 Product identifier

Trade name: Hydroliq Air Pro

Other designation

UFI code: WYH5-406N-C00G-1J1F

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

Disinfectant (biocidal product). See also section 7.3 - Specific end uses.

1.3. details of the manufacturer providing the safety data sheet.

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1.4. emergency number

Swiss national emergency number: 145 (available 24 h, Tox Info Suisse, Zurich; for calls from Switzerland, information in German, French and Italian).

+41 442 515 151 (Tox Info Suisse)

+49 (0)30 192 40 (Berlin Poison Control)

SECTION 2: Potential hazards

2.1 Classification of the substance or preparation

No classification required.

2.2 Marking elements

No labelling required.

2.3 Other hazards

Not PBT/vPvB according to Article 4 ChemO.

Direct contact with the liquid product may cause eye irritation and mild irritation of sensitive skin or open wounds. Ingestion of the solution may cause irritation of the throat and digestive tract. Prolonged exposure to the nebulised product (aerosol) may irritate the eye with conjunctiva and the upper respiratory tract including the nose and throat.

SECTION 3: Composition/Information on ingredients

3.1. substances

Not applicable

3.2 Preparations

Solution in water with biocidal active ingredients.

Name	Identificator	Weight %	Classification acc. 1272/2008/EC (100 %)
Active chlorine, released from hypochlorous acid	CAS No. 7790-92-3, EC No. 232-232-5	0.1 (= 1000 mg/kg or 1000 ppm)	None (active chlorine < 0.25 %)
with shares of			
Chlorine	CAS No. 7782-50-5, EC No. 231-959-5		Dgr, GHS03, GHS06, GHS09 Ox. Gas 1, H270 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Acute Tox. 3, H331 STOT SE 3, H335 Aquatic Acute 1, H400
Hypochlorous acid	CAS No. 7790-92-3, EC No. 232-232-5		None
Sodium hypochlorite	CAS No. 7681-52-9, EC No. 231-668-3		Dgr, GHS05, GHS09 EUH031 (Conc. ≥ 5 % active chlorine) Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Sodium chloride	CAS No. 7647-14-5, EC No. 231-598-3	0,05 - 1,0	Wng, GHS07 Eye Irrit. 2, H319

The wording of the listed hazard statements can be found in section 16.

Minimum concentration for bactericidal, virucidal and levurocidal efficacy is 200 ppm or 0.02%.

SECTION 4: First aid measures

4.1 Description of first aid measures

After eye contact: In case of eye irritation, rinse with running tap water or eye wash/eye shower for several minutes.

After skin contact: If skin irritation occurs, remove product with soap and warm water. Remove clothing soaked with the product.

After ingestion: Consult a doctor. After swallowing a small amount of the product, dilution by drinking tap water may be considered. Do not induce vomiting.

After inhalation: Supply fresh air. If symptoms persist, such as dizziness or nausea, consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Eye and skin irritation possible after eye/skin contact (acute and delayed). Local irritation, drowsiness and nausea after inhalation or ingestion (acute and delayed).

4.3. indications for immediate medical help or special treatment

Treatment of symptoms. No antidote known. No special treatment required.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Carbon dioxide (CO₂), alcohol-resistant foam, dry extinguishing agent, water spray. Adapt extinguishing measures to the surroundings.

5.2 Special hazards arising from the substance or preparation

Non-flammable substance. In case of fire, small quantities of hazardous gases may be released: chlorine, hydrogen chloride gas, chlorine oxides.

5.3 Advice for fire fighting

According to general recommendations in case of fire in the presence of vapours, aerosols, combustion products: use self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Do not inhale aerosols / vapours. Advice for emergency personnel: see section 8.

6.2 Environmental protection measures

Do not allow concentrate to enter drains, surface water or soil.

6.3 Methods and material for containment and cleaning up

Absorb small quantities of leaking product with disposable cloths. Contain and absorb larger quantities with absorbent material (e.g. sand, earth, diatomaceous earth, vermiculite) and place in containers for disposal in accordance with local / national legislation (see chapter 13). Clean up (see section 7.1).

6.4 Reference to other sections

For information on safe handling, see section 7. For information on protective equipment, see section 8. For information on disposal, see section 13.

SECTION 7: Handling and storage

7.1 Protective measures for safe handling

Measures to protect against fire and explosions:

Usual measures of preventive fire protection. No flammable material.

Information for safe handling: Observe the usual precautionary measures when handling chemicals. Avoid contact with eyes and skin. Provide eyewash bottle or eye wash at workplace if running tap water is not available. Wear gloves if skin is sensitive. Remove contaminated clothing and wash before

reuse. Do not inhale aerosols and vapours. Do not eat, drink or smoke in the work area. Wash hands before breaks and at the end of work.

Measures to protect the environment: Avoid release into the environment. Do not allow to enter drains.

7.2 Conditions for safe storage taking into account incompatibilities

Information on storage conditions

Keep container tightly closed in a cool, dry, well-ventilated place. Protect from heat. Protect from exposure to light. Development of oxygen and chlorine possible.

Requirements for storage rooms and containers

If possible, store in the sealed original container. Unbreakable plastic containers are preferable to glass containers. Label contents correctly. Place fragile containers in shatterproof receptacles. Do not store in food containers because of the risk of confusion.

Storage class: not applicable (no hazardous substance)

7.3 Specific end uses

Airborne room disinfection by cold fogging in the field of human medicine as well as in the field of food, industry and public facilities (biocide product types 2 and 4). The product may only be used for the disinfection of surfaces and not for air disinfection.

Please follow the manufacturer's working instructions and instructions for on-site validation. Apply at least 36 ml per m³ room volume with a nebuliser (median droplet diameter < 30 µM) for an exposure time of at least 180 minutes. Clean contaminated surfaces before disinfection. If used in the food sector, rinse treated surfaces several times with drinking water. For professional use only.

The application must be fully automated: The application is carried out by means of a device without the presence of persons in the room with a remote control or an automatic on/off switch. Windows, doors and all other room openings must be closed during application and exposure time, and ventilation and air conditioning systems must be switched off. After the application time: Wait 1 hour and ventilate well before entering the treated room. Entering the treated room in an emergency is only permitted with suitable personal protective equipment (recirculating air-independent breathing apparatus, face shield, gloves, body protection: see section 8 of the Safety Data Sheet).

Industry and sector specific guidance: No information available.

SECTION 8: Exposure controls/personal protective equipment

8.1 Parameters to be monitored

MAK value of chlorine, CAS no. 7782-50-5: 0.5 ppm or 1.5 mg/m³ (SUVA)

Short-term limit value of chlorine: 0.5 ppm or 1.5 mg/m³ (SUVA)

MAK value of trichloramine: 0.06 ppm or 0.3 mg/m³ (SUVA)

The product does not contain any other substances with occupational exposure limits.

DNEL (worker) for chlorine, CAS No. 7782-50-5:

DNEL acute inhalation (local and systemic): 1.5 mg/m³

DNEL Long-term inhalation (local and systemic): 0.75 mg/m³

DNEL long-term dermal (systemic): 0.5 %.

DNEL (consumer) for chlorine, CAS No. 7782-50-5:

DNEL acute inhalation (local and systemic): 1.5 mg/m³

DNEL Long-term inhalation (local and systemic): 0.75 mg/m³

DNEL long-term dermal (systemic): 0.5 %.

DNEL Long-term oral (repeated): 0.25 mg/kg bw/day

PNEC for chlorine, CAS No. 7782-50-5:

PNEC waters, freshwater: 0.21 µg/L

PNEC waters, periodic release: 0.26 µg/L

PNEC sewage treatment plant (STP): 0.03 mg/L

PNEC secondary poisoning: 11.1 mg/kg food

PNEC waters, seawater: 0.042 mg/L

8.2 Exposure controls and monitoring

8.2.1 Suitable technical protective measures

Ensure good ventilation of the work area. Provide washing facilities at the workplace, or provide an eye wash/eyewash bottle and mark it conspicuously.

8.2.2 Individual protective measures - personal protective equipment

General protective and hygienic measures - see section 7.1

Eye / face protection

Safety goggles with side shields if required. In case of emergency, enter the treated area only with face protection.

Skin protection

Work with gloves if skin is sensitive. Preventive skin protection recommended. In case of emergency, enter the treated area wearing a chemical protection suit.

Gloves

Protective gloves according to DIN EN 374. Suitable glove material also for prolonged, direct contact: Polyvinyl chloride (PVC), nitrile rubber, chloroprene rubber (CR), butyl rubber, fluoroelastomer (FKM). Breakthrough time (maximum wearing time): >480 min. Gloves must be checked for leakage before use. The penetration time may vary depending on the design and conditions of use. Ask the manufacturer of the protective gloves for information on permeability and breakthrough times.

Breathing protection

No respiratory protection is required when used as intended. In case of emergency, enter the treated area only with self-contained breathing apparatus.

8.2.3 Limitation and monitoring of environmental exposure

Avoid release into the environment. Do not allow to enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Clear, colourless liquid

Odour: faint smell of chlorine

Odour threshold: from a concentration of 0.06 - 0.2 ppm active chlorine

pH value: 6.0

Melting point/freezing point: approx. 0 °C

Initial boiling point and boiling range: approx. 100 °C

Flash point: not applicable

Evaporation rate: not determined

Flammability (solid, gaseous): non-flammable

Upper/lower flammability or explosion limits: none

Vapour pressure: 23 hPa at 20 °C

Vapour density: not determined

Relative density: approx. 1.02 g/cm³

Solubility(ies): completely soluble in water

Partition coefficient: n-octanol/water: not determined

Auto-ignition temperature: none

Decomposition temperature: none

Viscosity: not determined

Explosive properties: none

Oxidising properties: weakly oxidising

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

See section "Possibility of hazardous reactions".

10.2 Chemical stability

Stable under recommended conditions of use and storage (See section 7).

10.3 Possibility of hazardous reactions

No dangerous reactions of the product are known. The ingredient chlorine can react violently with flammable substances and reducing agents, oxidises organic substances violently, causes rapid corrosion of some metals with water. At elevated temperatures (> 120 °C) chlorine reacts spontaneously with iron (chlorine-iron fire). Chlorine can react with aluminium, alcohols and numerous chemical compounds. The ingredient sodium hypochlorite can undergo exothermic reactions with acids and oxidising agents.

10.4 Conditions to avoid

Heating, warming, sunlight.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

None known. Possible decomposition products of the ingredients chlorine and sodium hypochlorite are hydrogen chloride and chlorine oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity: no data available

Skin corrosion/irritation: Product may be slightly irritating. Practical experience.

Serious eye damage/irritation: Product may be irritating. Practical experience.

Respiratory/skin sensitisation: No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: No data available.

Reproductive toxicity: no data available

Specific target organ toxicity (single exposure): No data available.

Specific target organ toxicity (repeated exposure): No data available.

Aspiration hazard: Irritation of the respiratory tract possible in case of aspiration.

Toxicological data for the ingredient chlorine, CAS No. 7782-50-5:

LD₅₀ Acute Oral (rat): 1100 mg/kg body weight (data from sodium hypochlorite, read-across).

LD₅₀ Acute dermal (rabbit): > 20 g/kg body weight (data from sodium hypochlorite, read-across).

LC₅₀ Acute Inhalation (0.5 h, rat, OECD 403): 1,462 mg/L

Irritant effect skin: irritant. Experiences from practice.

Irritant effect eye: irritant - danger of serious eye damage. Experience from practice.

Skin sensitisation (guinea pig, OECD 406): Not sensitising.

Respiratory sensitisation: Test not necessary for scientific reasons.

Chronic toxicity (90 d, rat, OECD 413): NOAEL Inhalation 0.5 ppm. No systemic

Effects to be observed, irritation of the respiratory system.

Mutagenicity: (OECD 471): Data inconclusive.

Reproductive toxicity (oral, rat, OECD 415): No evidence of reproductive toxic effects.

Carcinogenicity (inhalation, rat): There are no indications of a carcinogenic effect from long-term tests.

SECTION 12: Environmental information

12.1 Toxicity

Ecotoxicological data for the product are not available.

Ecotoxicological data of the ingredient chlorine, CAS No. 7782-50-5:

Fish LC₅₀ (96 h, rainbow trout): 0.06 mg/L (data from sodium hypochlorite, read-across).

Daphnia EC₅₀ (48 h, Daphnia magna): 0.041 mg/L (data from sodium hypochlorite, read-across).

Algae EC₅₀ (48 h, Chlorella sp.): 0.023 mg/L (data from sodium hypochlorite, read-across).

Bacteria EC₅₀ (3 h, activated sludge): 3 mg/L

12.2 Persistence and degradability

The physicochemical degradability of the ingredient chlorine has not been determined. The ingredient sodium hypochlorite can be degraded by chemical or photolytic processes. Decomposition by hydrolysis. Aquatic half-life < 1 day.

Biodegradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No bioaccumulation potential. Log Kow of chlorine = 0.85, Log Kow of hypochlorous acid = -0.87, Log Kow of sodium hypochlorite = -3.42 (KOWWIN v1.67 estimates).

12.4 Mobility in soil

High mobility. Adsorption in soil is not expected.

12.5 Results of the PBT and vPvB assessment

The PBT or vPvB criteria of Annex XIII of REACH do not apply to inorganic substances.

12.6 Other adverse effects

Do not allow uncontrolled release of product into the environment. The product must not get into groundwater or surface waters. The active ingredient active chlorine contained in the product can reduce the performance of active sludge in sewage treatment plants at concentrations of 5 mg/L and above.

SECTION 13: Disposal instructions

13.1 Waste treatment processes

Waste code according to Annex 1 of the List of Wastes pursuant to Article 2 VeVA, SR 814.600: 06 13 01 (Inorganic plant protection products, wood preservatives and other biocides)

Dispose of completely emptied and cleaned containers with municipal waste. Recommended cleaning agent: Water, if necessary with the addition of cleaning agents. Return partially emptied containers to the point of sale or hand them over to the collection point for special waste. Dispose of in accordance with official regulations.

SECTION 14: Transport information

Regulations according to ADR, RID, ADN, IMDG, ICAO: not applicable

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard classes

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for the user

Not applicable

14.7 Carriage in bulk in accordance with Annex II of the MARPOL Convention and the IBC Code.

Not applicable

SECTION 15: Legislation

15.1. safety, health and environmental regulations/legislation specific to the substance or preparation.

Authorisation number for Switzerland as biocidal product according to Biocidal Products Ordinance, SR 813.12, and ChemO, SR 813.11: CHZN5775.04.002

Hydroliq Solutions GmbH is registered as a manufacturer of the active substance "Active chlorine released from hypochlorous acid" (EC No 232-232-5, CAS No 7790-92-3) for product types 2 and 4 in the list referred to in Article 95 of Regulation (EU) No 528/2012.

Water hazard class according to GSchV, SR 814.201: Class B

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been prepared.

SECTION 16: Other information

Full text of hazard statements in sections 2 and 3:

H270: May cause or intensify fire; oxidiser.

H314: Causes severe skin burns and eye damage.

H315: Causes skin irritation.

H318: Causes serious eye damage.

H319: Causes severe eye irritation.

H331: Toxic by inhalation.

H335: May cause respiratory irritation.

H400: Very toxic to aquatic organisms.

H410: Very toxic to aquatic life, long lasting.

EUH031: Contact with acids liberates toxic gas.

Abbreviations:

DNEL: Derived no effect concentration

Dng: Danger

EC₅₀ : Effective concentration, 50 percent

LC₅₀ : Lethal concentration, 50 percent

LD₅₀ : Lethal dose, 50 percent

MAK: Maximum workplace concentration

PBT: persistent, bioaccumulative and toxic

PNEC: Estimated no effect concentration

STOT SE: Specific target organ toxicity after a single exposure.

SUVA: Swiss Accident Insurance Fund

vPvB: very persistent and very bioaccumulative

Wng: Warning

Sources of the most important data

For the preparation of this safety data sheet, information as well as data from the "Database of registered substances" of the European Chemicals Agency and the GESTIS substance database were used.