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

1.1	Product identifier
	Trade name: Unisanol
	CAS Number: The mixture does not have a uniform designation
	Registration number: The mixture does not have a uniform designation
1.2	Relevant identified uses of the substance or mixture and uses advised against
	Intended use: a virucide for hand disinfection (formulation as recommended by WHO)
	Uses advised against: use the mixture only for the purposes specified by the manufacturer. Otherwise, the user may be exposed to unforeseeable risks.
1.3	Details of the supplier of the safety data sheet
	Supplier: Tomas Bata University in Zlín
	Place of business or registered office: nám. T. G. Masaryka 5555, 760 01 Zlín
	Phone: +420576032244
	Email: info-tpo@utb.cz
	Competent person: ENVI GROUP s.r.o., Příčná 2186, 347 01 Tachov, phone.: +420,373,721,316, email: info@envigroup.cz
1.4	Emergency telephone number
	Toxicology information centre, Na Bojišti 1, CZ-120 00 Prague (24 hrs/day) +420-224919293 +420-224915402 Information only regarding health risks – acute poisoning of people and animals

SECTION 2: Hazards identification

2.1	Classification of the substance or mixture	The mixture is classified as hazardous.
	Classification according to Regulation No. 1272/2008 CLP:	Flam. Liq. 2, H225 Eye Irrit. 2, H319
	Adverse effects on human health:	Causes serious eye irritation.
	Adverse effects on the environment:	Not classified
	Hazardous physico-chemical effects:	Highly flammable liquid and vapour.
2.2	Label elements	
	Contains the active substance:	Ethanol
	Hazard pictogram	
	Signal word	Danger
	Hazard statements:	H225 Highly flammable liquid and vapour H319 Causes serious eye irritation
	Precautionary statements:	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/attention. P501 Dispose of contents/container as hazardous waste.

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2.3	Other hazards: The mixture is not identified as having PBT or vPvB properties. Vapours form explosive mixtures with air. Vapours are heavier than air and may spread in the surrounding area and accumulate in low areas. High concentrations of vapours irritate the eyes and mucous membranes of the respiratory tract and have a narcotic effect.
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SECTION 3: Composition/information on ingredients

3.1	Substances Not applicable
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3.2	Mixtures
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Substance identifier	CAS number Einecs Index number Registration number	Concentration (% vol.)	Classification according to 1272/2008
Ethanol	64-17-5 200-578-6 603-002-00-5 01-2119457610-43-0138	83-84	Flam. Liq. 2, H225 Eye Irrit. 2, H319
Glycerol	56-81-5 200-289-5 - -	1.5	According to Regulation (EC) No 1272/2008, the product is not classified as hazardous substance or mixture.
Hydrogen peroxide 30%	7722-84-1 231-765-0 008-003-00-9 01-2119485845-22	0.4	Acute Tox. 4, H302, H332 Skin Corr. 1A, H314 Ox. Liq. 1, H271
Denatonium benzoate	3764-33-6 223-095-2 - -	< 0.01	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Specific concentration limit

Hydrogen peroxide 30%	7722-84-1 231-765-0 008-003-00-9 01-2119485845-22	Skin Corr. 1A; H314: C ≥ 70 % Ox. Liq. 1; H271: C ≥ 70 % STOT SE 3; H335; C ≥ 35 % Eye Irrit. 2; H319: 5 % ≤ C < 8 % Skin Corr. 1B; H314: 50 % ≤ C < 70 % Eye Dam. 1; H318: 8 % ≤ C < 50 % Skin Irrit. 2; H315: 35 % ≤ C < 50 % Ox. Liq. 2; H272: 50 % ≤ C < 70 %
Ethanol	64-17-5 200-578-6 603-002-00-5 01-2119457610-43	Eye Irrit. 2, H319: C ≥ 50 %

The full wording of H-statements is listed in Section 16.

SECTION 4: First aid measures

4.1	Description of first aid measures If you do not feel well after exposure or if the problem persists, seek medical attention. If the victim is unconscious, place him/her into the recovery position on his/her side and get medical attention. Do not administer anything orally to an unconscious person. In life-threatening conditions, resuscitation should be performed: The victim is not breathing – rescue breathing must be performed immediately Cardiac arrest – an indirect heart massage must be initiated immediately Unconsciousness – it is necessary to place the victim into the recovery position on his/her side
In case of inhalation:	Remove the victim to fresh air, keep the person calm and warm. Depending on the situation, the following can be recommended: rinsing the oral cavity or nose with water and medical treatment.

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	In case of skin contact:	After long-term exposure, wash the contaminated skin with lukewarm water, then apply regenerating cream. Seek medical attention if problems occur.
	In the event of contact with eyes:	Remove contact lenses, if present and easy to do. Rinse your open eyes with water for about 15 minutes. Do not rinse with a strong stream of water – there is a risk of corneal injury. Seek professional medical attention immediately.
	After ingestion:	Rinse the mouth with water, drink 1–2 dl of water. Do not induce vomiting. Get medical attention immediately.
4.2	Most important symptoms and effects, both acute and delayed If the product gets into the eyes, there is a risk of eye irritation.	
4.3	Indication of any immediate medical attention and special treatment needed No special preparations are specified. Treatment is symptomatic.	
SECTION 5: Firefighting measures		
5.1	Extinguishing media	
	Suitable extinguishing media:	Carbon dioxide (CO ₂), extinguishing powder, water jet, water mist
	Unsuitable extinguishing media:	Strong stream of water
5.2	Special hazards arising from the substance or mixture The mixture is classified as flammable. In case of fire, irritating, toxic and harmful combustion products may be formed. In case of fire, the following can be released: carbon oxides and other dangerous gases.	
5.3	Advice for firefighters Do not breathe explosion and fire gases. Choose protective equipment according to the extent of the fire. Adequate protective self-contained breathing mask and, where appropriate, overall protective clothing. Cool the products in closed containers that are close to the fire with water. If possible, remove products in undamaged packaging from the hazard area. Keep the contaminated water from fire extinguishing separately and do not discharge it into sewers. Dispose of fire-fighting water or used extinguishing agents together with combustion residues in accordance with applicable regulations.	
SECTION 6: Accidental release measures		
6.1	Personal precautions, protective equipment and emergency procedures 6.1.1. For non-emergency personnel Keep unauthorized persons out of the affected area. Isolate the hazard area and deny access. Notify the local emergency centre (fire brigade, police). Do not touch spilled material. During and after work, eating, drinking and smoking is prohibited until thoroughly washed with soap and warm water. 6.1.2. For emergency responders Ensure sufficient ventilation. Use personal protective equipment. Avoid contact with skin and eyes. Observe the rules and regulations of occupational safety when working with chemical preparations.	
6.2	Environmental precautions Prevent product from entering drains, surface or ground water (by closing, sealing or covering sewers and sealing any cracks on them). In case of accidental leakage of a large quantity of the product into a sewerage or watercourse, inform the competent authorities.	
6.3	Methods and material for containment and cleaning up Large spillage: Drain the product. Small spillage: Absorb with suitable absorbent material: Vapex. Collect into a suitable labelled container and hand over to a specialized disposal company.	
6.4	Reference to other sections See Section 7 for information on safe handling, see Chapter 8 for information on personal protection equipment, see chapter 13 for disposal information.	
SECTION 7: Handling and storage		
7.1	Precautions for safe handling Ensure good ventilation and air extraction at the workplace. Do not inhale aerosols. Avoid contact with eyes and prolonged skin exposure. Do not drink, eat or smoke while using the product. Use personal protective equipment.	

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7.2	Conditions for safe storage, including any incompatibilities Store in original tightly closed containers in a well-ventilated, dry and cool place (up to 30 °C). Do not eat, drink or smoke in places where the product is stored and used. Protect against direct sunlight and heat exposure. Do not store together with: alkali metals, combustible substances
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7.3	Specific end use(s) Virucide – TP 01
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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Exposure limits according to Government Regulation No. 361/2007 Coll., as amended:

Substance name (components):	CAS	PEL mg/m ³	NPK-P mg/m ³	Note
Hydrogen peroxide	7722-84-1	1	2	I
ethanol	64-17-5	1,000	3,000	-
Glycerol, mist	56-81-5	10	15	-

I – irritates mucous membranes (eyes, respiratory tract) or skin

DNEL, PNEC – information not available

8.2 Exposure controls

Ensure sufficient ventilation. Do not eat, drink or smoke while working.

Where there is the possibility of chemical splashes to the eye, it is advisable to set up an eye rinse fountain (or at least a suitable shower) in the workplace to provide first aid.

The monitoring procedure for the content of substances in the air of workplaces and specifications of protective equipment are determined by the worker responsible for occupational safety and health.

Occupational exposure controls

Respiratory protection:	If NPK-P cannot be observed, use respiratory protection.
Eye protection:	Wear safety goggles to protect your eyes if there is a splash hazard.
Hand protection:	Not required. In case of long-term exposure, use protective gloves resistant to the product.
Skin protection:	Protective occupational clothing and footwear

Environmental exposure controls

Compliance with handling and storage conditions, in particular securing premises against leakage of concentrated products into watercourses, soil and sewers (see the conditions for handling according to Act No. 254/2001 Coll., on Waters).

Ensure that the product is tightly closed.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

State:	liquid
Colour:	colourless
Odour:	alcoholic
Odour threshold:	Information not available
pH:	Information not available
Melting point/freezing point (°C):	Information not available
Initial boiling point and boiling range (°C):	Information not available
Flash point:	Flammable substance (12 for ethanol)
Evaporation rate	Information not available
Flammability:	Information not available
Explosion or flammability limits: upper limit (% vol.):	Information not available
lower limit (% vol.):	Information not available
Vapour pressure	Information not available
Vapour density	Information not available
Density (at 20 °C):	Information not available
Solubility in water	miscible
Partition coefficient: n-octanol/water:	Information not available

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	Auto-ignition temperature:	Information not available
	Decomposition temperature:	Information not available
	Viscosity – dynamic:	Information not available
	Explosive properties:	Not explosive
	Oxidising properties:	It has weak oxidizing properties
9.2	Other information	
	Information not available	
SECTION 10: Stability and reactivity		
10.1	Reactivity Stable under normal storage and handling conditions.	
10.2	Chemical stability The mixture is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.	
10.3	Possibility of hazardous reactions Hazardous reactions with: oxidizing agents, alkali metals, peroxides, acids, chlorides.	
10.4	Conditions to avoid High temperature, sources of ignition.	
10.5	Incompatible materials Alkaline metals, strong oxidizing agents, halogen, halogen compounds, chromium oxide.	
10.6	Hazardous decomposition products reaction with alkali metals – flammable hydrogen is released thermal decomposition – CO	
SECTION 11: Toxicological information		
11.1	Information on toxicological effects	
	a) Acute toxicity Available information suggests that the criteria for this classification have not been met. <u>Hydrogen peroxide (CAS 7722-84-1)</u> LD50, oral, rat = 1,193–1,270 mg/kg <u>Ethanol (CAS 64-17-5)</u> LD50, oral, rat (mg/kg): 7,060 LD50, dermal, rabbit (mg/kg): 6,300 LD50, inhalation, rat, for gases and vapours (mg/l): 20,000	
	(b) Skin corrosion/irritation Available information suggests that the criteria for this classification have not been met. Ethanol rabbit: 20 mg/24 h – MOD (moderately irritating) rabbit: 400 mg – MLD (mildly irritating)	
	(c) Serious eye damage/eye irritation Causes serious eye irritation. Ethanol rabbit: 100 mg/s – MOD (moderately irritating) rabbit: 500 mg – SEV (severely irritating)	
	(d) Respiratory/skin sensitisation Available information suggests that the criteria for this classification have not been met.	
	(e) Germ cell mutagenicity Available information suggests that the criteria for this classification have not been met.	
	(f) Carcinogenicity Available information suggests that the criteria for this classification have not been met.	
	(g) Reproductive toxicity Available information suggests that the criteria for this classification have not been met.	
	h) Specific target organ toxicity – single exposure Available information suggests that the criteria for this classification have not been met.	
	i) Specific target organ toxicity - repeated exposure Available information suggests that the criteria for this classification have not been met.	

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j) Aspiration hazard

Available information suggests that the criteria for this classification have not been met.

Other information: May cause skin irritation on prolonged skin contact. May irritate mucous membranes. In case of eye contact, it may cause eye damage. It degreases the skin, creating small cracks that allow the infection to enter. After ingestion, it is rapidly absorbed through the gastric mucosa and enters the bloodstream. Vapours (in high concentration) are irritating to the eyes and mucous membranes of the respiratory system, they have a narcotic effect.

SECTION 12: Ecological information

12.1 Toxicity

The mixture is not classified as dangerous for aquatic life.

Hydrogen peroxide (CAS 7722-84-1)

Toxicity to fish: LC50, 96 h, Oncorhynchus mykiss = 188 mg/kg

Toxicity to invertebrates: EC50, 48 h, Daphnia magna = 13 mg/l

Toxicity to algae: IC50, 72 h, Selenastrum capricornutum = 11–15 mg/l

Ethanol (CAS 64-17-5)

to fish: LC50, 96 h, Nepomis macrochirus: 1,040 mg/l

LC50, 96 h, Cyprinus carpio: 1,520 mg/l

LC50, 96 h, Pimephales promelas: 1,030–14,200 mg/l

to invertebrates: EC50, 48 h, Daphnia magna: 9,248 mg/l

to algae: IC50, 72 h, 5,000 mg/l

Glycerol (CAS 56-81-5)

Toxicity to fish: 5,000 mg/l

Toxicity to algae: 2,900 mg/l

12.2 Persistence and degradability

The mixture is degradable.

12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

12.4 Mobility in soil

Information not available

12.5 Results of PBT and vPvB assessment

The mixture is not identified as having PBT or vPvB properties.

12.6 Other adverse effects

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

(a) Suitable methods for disposing of the substance or preparation and its contaminated packaging:

When disposing of product residues and its packaging, it is necessary to proceed in accordance with the Waste Act, as amended by all implementing regulations (decree establishing the Waste Catalogue; Decree on the details of waste management). If this preparation and its packaging become waste, the end user must assign the corresponding waste code according to the Waste Catalogue. Classification according to the Waste Catalogue can be carried out on the basis of the properties of the waste at the time of its generation.

(b) Physical/chemical properties that may affect waste management

) Not stated.

(c) Prevention of waste disposal through sewers

Not stated.

(d) Special precautions for recommended waste management

) Not stated.

Waste legislation:

Act No. 185/2001 Coll., Decree No. 383/2001 Coll., Decree No. 94/2016 Coll., Decree No. 93/2016 Coll.

SECTION 14: Transport information

The mixture is dangerous goods for transport

14.1 UN Number: 1170

14.2 UN proper shipping name

Inland transport (ADR)

Rail transport (RID)

Transport by sea (IMDG):

ETHANOL, SOLUTION

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	Air transport (ICAO/IATA):			
14.3	Transport hazard class(es):			
	Inland transport (ADR)	Rail transport (RID)	Transport by sea (IMDG):	Air transport (ICAO/IATA):
	3	3	3	3
14.4	Packing group			
	Inland transport (ADR)	Rail transport (RID)	Transport by sea (IMDG):	Air transport (ICAO/IATA):
	II	II	II	II
14.5	Environmental hazards			
	The mixture is not dangerous for the environment during transport.			
14.6	Special precautions for user			
	Safety mark: 3			
14.7	Transport in bulk according to Annex II of Marpol and the IBC Code			
	Not applicable			
SECTION 15: Regulatory information				
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture			
	Regulation (EC) No. 1907/2006 (REACH); Regulation (EC) No. 1272/2008 (CLP); Regulation (EU) 830/2015; Government Regulation No. 361/2007 Coll.; Waste Act as amended			
15.2	Chemical safety assessment			
	has not been performed.			
SECTION 16: Other information				
	(a)	19 March 2020: Issue of safety data sheet in accordance with EC 1907/2006 REACH		
	(b)	A key or legend to abbreviations and acronyms		
		DNEL	Derived No Effect Level (exposure levels beneath which a substance does not harm human health)	
		PNEC	Predicted No Effect Concentration (the concentration of a substance below which adverse effects will most likely not occur)	
		Einecs	European Inventory of Existing Commercial Chemical Substances	
		CAS	Chemical Abstracts Service	
		IMDG	International Maritime Dangerous Goods Code	
		IATA	International Air Transport Association	
		ICAO	International Civil Aviation Organization	
		PEL	Permissible Exposure Limit, long-term (8 h)	
		NPK-P	Highest permissible airborne concentration, short-term limit	
		ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road	
		RID	Regulations concerning the International Carriage of Dangerous Goods by Rail	
		CLP	Regulation (EC) No. 1272/2008	
		REACH	Regulation (EC) No. 1907/2006	
		PBT	Persistent, Bioaccumulative and Toxic substance	
		vPvB	very Persistent and very Bioaccumulative substances	
		LD50, LC50, EC50, IC50	the concentration of the substance that is lethal to 50 % of the organisms in the toxicity test	
		Flam. Liq. 2	Flammable liquids – Category 2	
		Ox. Liq. 1, 2	Oxidizing liquids – Category 1, 2	
		Acute Tox. 4	Acute toxicity (oral, inhalation) – Category 4	
		Skin Corr. 1A, 1B	Skin corrosion/irritation – Category 1A, 1B	
		Skin Irrit. 2	Skin corrosion/irritation – Category 2	
		Eye Dam. 1	Serious eye damage/irritation – Category 1	
		Eye Irrit. 2	Serious eye damage/irritation – Category 2	
		STOT SE 3	Specific target organ toxicity (STOT) – single exposure – Category 3, respiratory irritation	

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	(c) Important reference to literature and data sources State legislation, scientific literature, original safety data sheet of the manufacturer. The classification of the mixture was performed by the manufacturer according to EC 1272/2008 – calculation method.
	(d) A list of relevant hazard statements and/or precautionary statements H225 Highly flammable liquid and vapour H271 May cause fire or explosion; strong oxidiser H272 May intensify fire; oxidiser H302 Harmful if swallowed H314 Causes severe skin burns and eye damage H315 Causes skin irritation H318 Causes serious eye damage H319 Causes serious eye irritation H332 Harmful if inhaled H335 May cause respiratory irritation
	(e) Instructions for training Occupational safety training for the handling of chemicals.
	(f) Other information The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. This information is only used for more correct and safer handling, storage, transport and disposal of the product. They cannot be considered as a guarantee or clarification of the quality of the product. This information applies only to the material explicitly stated and does not apply when used in combination with other materials or other processes not explicitly stated in the text of this safety data sheet.