

MATERIAL SAFETY DATA SHEET

prepared in accordance with COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (Official Journal of the European Union No L 203 of 26.06.2020)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND IDENTIFICATION ENTERPRISES

1.1 Product ID

CLEANSER PR SPRAY

UFI number: T220-30HG-T008-Q6DM

1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses: Preparation for cleaning and maintaining potentiometers.

Uses advised against: None known.

1.3 Details of the supplier of the safety data sheet Supplier: Micro Chip Elektronik

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E-mail of the person responsible for the safety data sheet: info@micro-chip.pl

1.4 Emergency telephone number

Emergency number in Poland (open 9:00 a.m. - 4:00 p.m.): + 48 503 017 712 open 24 hours a day: 112, 998, 999

Date of preparation: 08/04/2024

SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended: Aerosols, hazard category 1 (Aerosol 1)

Extremely flammable aerosol. (H222)

Aspiration hazard category 1 (Asp. Tox. 1)

May be fatal if swallowed and enters airways. (H304)* Skin corrosion/irritation, Hazard

Category 2 (Skin Irrit. 2)

Causes skin irritation. (H315)

Reproductive toxicity, hazard category 2 (Repr. 2)

Suspected of damaging fertility. (H361f)

Specific target organ toxicity – single exposure, hazard category 3, narcotic effects (STOT SE 3)

May cause drowsiness or dizziness. (H336)

Specific Target Organ Toxicity – Repeated Exposure, Hazard Category 2 (STOT RE 2)

May cause damage to organs through prolonged or repeated exposure. (H373)

Posing a hazard to the aquatic environment – chronic hazard, category 2 (Aquatic Chronic 2)

Toxic to aquatic life with long lasting effects. (H411)

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*In accordance with the provisions of Annex I to the CLP Regulation, point 1.3.3:

1.3.3. **Aerosols and sealed spray containers containing substances or mixtures classified as presenting an aspiration hazard**

With respect to the application of section 3.10.4, substances or mixtures classified in accordance with the criteria of sections 3.10.2. and 3.10.3 of this Part do not require labelling for this hazard when placed on the market in aerosol dispensers or when fitted with sealed aerosol generating devices.

Health hazards:

In case of significant concentrations of vapours or direct contact of the product with the eyes, irritation, redness, tearing, burning may occur. Contamination of the skin with a large amount of the product may cause redness, itching and dryness of the skin. Inhalation of vapours in high concentrations causes headache and dizziness, nausea, shortness of breath, respiratory disorders, impaired consciousness, loss of consciousness. Through the alimentary tract (when swallowed in large quantities) it causes nausea, vomiting, abdominal pain, diarrhea and the occurrence of narcotic symptoms, as in inhalation poisoning. It is suspected of being harmful to fertility. As with all liquefied gases, contact with rapidly evaporating liquid may cause burns (frostbite) of the skin and eyes.

Effects on the environment:

Toxic to aquatic life with long lasting effects.

Effects related to physicochemical properties:

Product vapors are heavier than air, they can create explosive mixtures with air. They accumulate near the ground and in the lower parts of rooms. Containers exposed to fire or high temperatures may explode.

2.2 Labeling elements

Pictograms:



Signal Word: **Danger**

Hazard statements:

H222 – Extremely flammable aerosol.
H229 – Pressurized container: May burst if heated.
H315 - Causes skin irritation.
H361f - Suspected of damaging fertility.
H336 - May cause drowsiness or dizziness.
H373 - May cause damage to organs through prolonged or repeated exposure.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements:

P308+P313 - IF exposed or concerned: Get medical advice/attention.
P261 - Avoid breathing mist/vapours/spray.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211 - Do not spray on an open flame or other ignition source.

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P251 - Do not pierce or burn, even after use.

P410 + P412 – Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

In case of use by consumers, additionally:

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read label before use.

Additional labeling requirements:

Contains: Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane; n-Hexane; Dec-1-ene, homopolymer, hydrogenated dec-1-ene, oligomers, hydrogenated; Cyclohexane.

*The phrase H304 may be omitted from the label, in accordance with the provisions of Annex I to the CLP Regulation, point 1.3.3:

1.3.3. **Aerosols and sealed spray containers containing substances or mixtures classified as presenting an aspiration hazard** With respect to the application of

section 3.10.4, substances or mixtures classified in accordance with the criteria of sections 3.10.2. and 3.10.3 of this Part do not require labelling for that hazard when placed on the market in aerosol containers or when fitted with sealed aerosol generating devices.

2.3 Other threats

The mixture does not meet the PBT and vPvB criteria. It does not contain any ingredients considered to be endocrine disrupting according to Article 57(f) of the REACH Regulation or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 at a concentration of 0.1% or higher.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Product ID: CLEANSER PR SPRAY

Ingredients of the mixture:

Name of the substance	index number	CAS No.	EC No.	ul. mass in %	Hazard classes and Category Codes	Return codes indicating type threats
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane	lack	92128-66-0	295-763-1	~ 32	Flam. Liq. 2 Asp. Tox. 1 Skin Irrit. 2 STOT SE 3 Aquatic Chronic 2	H225 H304 H315 H336 H411
n-Hexane Registration number: 01-2119480412-44-XXXX	601-037-00-0	110-54-3	203-777-6	<32	Flam. Liq. 2 Asp. Tox. 1 Skin Irrit. 2 Repr. 2 STOT SE 3 STOT RE 2 Aquatic Chronic 2	H225 H304 H315 H361f H336 H373 H411 <i>Specific concentration limit: STOT RE 2; H373: C > 5%</i>
Butane	601-004-00-0	106-97-8	203-448-7	6 - 13	Flame Gas 1 Press Gas	H220

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26/06/2020)

Propane	601-003-00-5	74-98-6	200-827-9	5 - 10	Flame Gas 1 Press Gas	H220
Dec-1-ene, homopolymer, hydrogenated dec-1-ene, oligomers, hydrogenated	lack	68037-01-4	500-183-1	γ 8	Asp. Tox. 1	H304
Carbon dioxide	lack	124-38-9	204-696-9	2 - 5	lack	lack
Cyclohexane Registration number: 01-2119463273-41-XXXX	601-017-00-1	110-82-7	203-806-2	< 4	Flam. Liq. 2 Asp. Tox. 1 Skin Irrit. 2 STOT SE 3 Aquatic Acute 1 Aquatic Chronic 1	H225 H304 H315 H336 H400 (M=1) H410 (M=1)
Propan-2-ol Registration number: 01-2119457558-25-XXXX	603-117-00-0	67-63-0	200-661-7	γ 3	Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	H225 H319 H336
Isobutane	601-004-00-0	75-28-5	200-857-2	1 - 3	Flame Gas 1 Press Gas	H220
3-methoxy-3-methylbutan-1-ol Registration number: 01-2119976333-33-XXXX	lack	56539-66-3	260-252-4	< 2	Eye Irrit. 2	H319
2-(2-butoxyethoxy)ethanol	603-096-00-8	112-34-5	203-961-6	< 1.2	Eye Irrit. 2	H319
Ethanol Registration number: 01-2119457610-43-XXXX	603-002-00-5	64-17-5	200-578-6	< 1	Flam. Liq. 2 Eye Irrit. 2	H225 H319 Specific concentration limit: Eye Irrit. 2; H319: C γ 50%

The full text of H phrases and the acronyms of symbols, hazard classes and category codes are given in Section 16 of the Safety Data Sheet.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: Remove the injured person from the place of exposure, place them in a comfortable half-sitting or sitting position, ensure calmness, protect against heat loss. If breathing problems occur, apply artificial respiration. If symptoms persist, call a doctor.

Skin contact: Pour cold water over the frostbitten body part, then remove contaminated clothing, rings, bracelets, watches, etc. If the clothing is stuck to the skin, do not remove it. Warm up the frostbitten body part slowly.

Cover with a sterile dressing. Do not use ointments or creams. Note: soak contaminated clothing with water before removing.

Eye contact: Rinse immediately with plenty of water, preferably running, for at least 15 minutes. Remove contact lenses. Avoid strong water jets due to the risk of mechanical damage to the cornea. In case of burns, seek immediate medical attention.

Digestive tract: This is an unlikely route of exposure because the product is in a sealed container. Do not induce vomiting. Rinse mouth with water and then drink plenty of water. Consult a physician if necessary.

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4.2 Most important acute and delayed symptoms and effects of exposure

In case of significant concentrations of vapours or direct contact of the product with the eyes, irritation, redness, tearing, burning may occur. Contamination of the skin with a large amount of the product may cause redness, itching and dryness of the skin. Inhalation of vapours in high concentrations causes headache and dizziness, nausea, shortness of breath, respiratory disorders, impaired consciousness, loss of consciousness. Through the alimentary tract (when swallowed in large quantities) it causes nausea, vomiting, abdominal pain, diarrhea and the occurrence of narcotic symptoms, as in inhalation poisoning. It is suspected of being harmful to fertility. As with all liquefied gases, contact with rapidly evaporating liquid may cause burns (frostbite) of the skin and eyes.

4.3 Indications of any immediate medical attention and special treatment for the injured person

In case of contact with the product in liquid form, proceed as in the case of frostbite. Do not give anything by mouth to an unconscious person and do not induce vomiting. Provide the doctor providing assistance with the safety data sheet.

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media**

Suitable extinguishing media:

Foam, carbon dioxide, extinguishing powders, water – dispersed currents.

Inappropriate extinguishing media:

Do not use dense streams of water on the surface of the liquid.

5.2 Special hazards arising from the substance or mixture

Carbon oxides are released in a fire environment. Aerosols may explode when heated to temperatures above 50°C.

5.3 Information for the fire brigade

Extremely flammable aerosol. Vapours form explosive mixtures with air, are heavier than air and accumulate near the ground and in lower parts of rooms. Cool containers exposed to fire from a safe distance with a sprayed water jet (explosion hazard); if possible, remove them from the endangered area. Gas-tight clothing in antistatic version, insulating respiratory protective equipment.

SECTION 6: MEASURES IN THE EVENT OF ACCIDENTAL ENVIRONMENTAL RELEASES**6.1 Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition - extinguish open flames, announce a ban on smoking and use of sparking tools, protect containers from heating (explosion hazard). Do not enter the endangered area.

Do not breathe gas/mist/vapours/spray. Provide adequate ventilation. Wear protective clothing and equipment (see section 8).

CAUTION: Potentially explosive area. Gas is heavier than air and can travel along the floor/ground to distant ignition sources and create a flashback hazard. To ensure safe working conditions, check gas levels before allowing personnel to enter.

Inform the surroundings about the failure; remove from the danger area all persons not involved in eliminating the failure, if necessary order an evacuation; call rescue teams.

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6.2 Environmental precautions

Prevent entry into sewage systems, surface and ground waters, soil and all places (e.g. ground depressions) where accumulation may occur.

6.3 Methods and materials for containment and cleaning up

Secure drains. Place damaged packaging in a replacement container. Dilute vapors with a dispersed stream of water. Remove sources of ignition (extinguish open flames, announce a ban on smoking and the use of sparking tools). Absorb the product in a chemically inert binding material (sand, diatomaceous earth), transfer to tightly closed containers and send for disposal. Rinse the contaminated surface with a large amount of water.

6.4 References to other sections

Dispose of in accordance with the recommendations in section 13.

SECTION 7: HANDLING AND REMEDIES OF SUBSTANCES AND MIXTURES STORAGE

7.1 Precautions for safe handling

Provide adequate general and local ventilation. Keep away from sources of high temperature and sources of ignition. Do not spray on an open flame or any incandescent material. Do not puncture or burn aerosol containers, even empty, after use of the mixture. It is advisable to take precautions to avoid contact with skin and eyes when working with the mixture. Do not breathe gas/mist/vapours/spray.

Prevent entry into sewage, surface and ground water and soil. Do not eat, drink or smoke during use. Wash hands during breaks and after work. Remove contaminated clothing, wash before re-wearing.

7.2 Conditions for safe storage, including information on any incompatibilities

Product vapors with air may form explosive mixtures. Vapours are heavier than air and accumulate near the floor or ground surface. Store in original, properly labeled, tightly closed containers, in a cool, dry, well-ventilated storage room, equipped with explosion-proof electrical and ventilation installations. Pressurized containers: protect from sunlight, do not expose to temperatures above 50°C. Store away from sources of high temperature, sources of ignition, oxidizers. Protect from sunlight.

7.3 Specific end use(s)

No information on uses other than those mentioned in section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Legal basis:

Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018, on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws, item 1286, 2018); Regulation of the Minister of Family, Labor and Social Policy of January 9, 2020 amending the regulation on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws, item 61, 2020);

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Regulation of the Minister of Development, Labor and Technology of February 18, 2021 amending the regulation on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws, item 325, 2021);

Regulation of the Minister of Family and Social Policy of 18 August 2023 amending the regulation on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws, item 1661, 2023).

Name of the substance	CAS No.	Standard	value	unit
Cyclohexane	110-82-7	NDS	300	mg/m3
		NDSch	1000	mg/m3
		NDSP	not designated	
Hexane	110-54-3	(skin)		
		NDS	72	mg/m3
		NDSch and NDSP	not determined	
2-(2-Butoxyethoxy)ethanol	112-34-5	(skin)		
		NDS	67	mg/m3
		NDSch	100	mg/m3
Propane	74-98-6	NDSP	not specified	
		NDS	1800	mg/m3
		NDSch and NDSP	not determined	
Butane	106-97-8	NDS	1900	mg/m3
		NDSch	3000	mg/m3
		NDSP	Not specified	
Carbon dioxide	124-38-9	NDS	9000	mg/m3
		NDSch	27000	mg/m3
		NDSP	Not specified	
Propan-2-ol	67-63-0	NDS	900	mg/m3
		NDSch	1200	mg/m3
		NDSP	not specified	
Ethanol	64-17-5	(skin)		
		NDS	1900	mg/m3
		NDSch	not scheduled	
		NDSP	not designated	

The skin notation indicates that absorption of the substance through the skin may be as important as inhalation exposure.

Propan-2-ol:

DNEL values spicy for employees: _____

888 mg/kg (skin) - local

Long-term DNEL values for workers: _____

500 mg/m3 (inhalation) – local DNEL values for the general public: spicy _____

319 mg/kg (skin) - local

Long-term DNEL values for the general public: _____

89 mg/m3 (respiratory) - local PNEC values: _____

140.9 mg/l (freshwater)

140.9 mg/l (sea water)

552 mg/kg (sediment - fresh and marine water)

28 mg/kg (soil)

Cyclohexane:

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DNEL (workers, inhalation, chronic toxicity, systemic and local effects): 700 mg/m³
 DNEL (workers, inhalation, acute toxicity, systemic and local effects): 1400 mg/m³
 DNEL (workers, skin, chronic toxicity, systemic effects): 2016 mg/kg bw/day
 DNEL (consumers, inhalation, chronic toxicity, systemic and local effects): 206 mg/m³
 DNEL (consumers, inhalation, acute toxicity, systemic and local effects): 412 mg/m³
 DNEL (consumers, skin, chronic toxicity, systemic effects): 1186 mg/kg bw/day
 DNEL (consumers, oral, chronic toxicity, systemic effects): 59.4 mg/kg bw/day
 PNEC (freshwater): 44.7 µg/l
 PNEC (marine water): 4.47 µg/l
 PNEC (sewage treatment plant): 3.24 mg/l
 PNEC (sediment-freshwater): 3.6 mg/kg
 PNEC (sediment-marine water): 0.36 mg/kg

Ethanol:

Long-term DNEL values for workers: 380 mg/m³

(respiratory) - systemic

Long-term DNEL values for general population: 114 mg/m³
 (inhalation) – systemic
 PNEC values: 0.96

mg/l (freshwater) 0.79 mg/l
 (marine water) 580 mg/l
 (sewage treatment plant) 3.6 mg/kg
 (sediment - freshwater) 2.9 mg/kg
 (sediment - marine water) 0.38 g/kg
 (secondary poisoning) 3-
methoxy-3-methylbutan-1-ol:

Long-term DNEL values for workers: 80 mg/m³

(respiratory) - systemic

Long-term DNEL values for workers: 6.25 mg/kg

(skin) - systemic

Long-term DNEL values for general public: 40 mg/m³
 (inhalation) – systemic

Long-term DNEL values for general population: 3.1 mg/kg
 (skin) – systemic

Long-term DNEL values for general population: 2.5 mg/kg
 (oral) – systemic

8.2 Exposure controls 8.2.1

Appropriate engineering controls

Local exhaust ventilation to remove vapors from their emission points and general room ventilation are required. Local ventilation intake openings at the work surface or below. General ventilation exhausts at the top of the room and at the floor. Ventilation systems must meet the conditions established with regard to the risk of fire. Do not use near sources of high temperature and sources of ignition. In the event of insufficient ventilation, use respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Respiratory tract: If the permissible concentrations of product vapours are exceeded, respiratory protection with a particle filter marked in white and the symbol P2 and a vapour filter marked in brown and the letter A should be used. AP combination filters may be used.

Hands and skin:

Use protective clothing made of natural materials (cotton) or synthetic fibres, protective gloves, for prolonged and repeated contact use nitrile or leather protective gloves, compliant with the PN-EN ISO 374 standard and

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Eyes: PN-EN ISO 21420. Gloves should retain their flexibility at temperatures below the boiling point of gas at atmospheric pressure.
When performing activities that may result in contact with the face, wear goggles, a mask, and safety glasses with side shields.

Occupational hygiene: General industrial hygiene regulations apply. Do not exceed permissible normative concentrations in the workplace environment. After finishing work, remove contaminated clothing. Before breaks in work, wash hands and face. After work, wash the whole body thoroughly. Do not eat, drink, or smoke while working.

8.2.3 Environmental exposure control

Prevent entry into watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) State of matter
Liquid atomized with propane/butane/isobutane/carbon dioxide.
- b) Colour
Colourless.
- c) Solvent
Odor.
- d) Melting/freezing point
No data available.
- e) Boiling point or initial boiling point and boiling range
No data available.
- f) Flammability of materials
Inflammable mixture.
- g) Lower and upper explosive limits
No data available.
- h) Flash point
No data available.
- i) Auto-ignition temperature
No data available.
- j) Decomposition temperature
No data available.
- k) pH
No data available.
- l) Kinematic viscosity
No data available.
- m) Solubility
Insoluble in water.
- n) n-octanol/water partition coefficient (log coefficient value)
No data available.
- o) Vapour
pressure No data available.
- p) Density or relative density
No data available.
- q) Relative vapor density
No data available.
- r) Characteristics of molecules

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Not applicable.

9.2 Other information**9.2.1. Information on physical hazard classes** a) Explosives: Not

applicable. b) Flammable gases: Not

applicable. c) Aerosols: Aerosol

1; Extremely flammable aerosol. Pressurized container: May explode if heated. d) Oxidizing gases Not

applicable e) Gases under

pressure Not applicable f) Flammable

liquids Not applicable g)

Flammable solids Not applicable h)

Self-reactive substances and mixtures Not applicable i)

Pyrophoric liquids Not applicable j) Pyrophoric

solids Not applicable k) Self-heating

substances and mixtures Not applicable l) Substances and

mixtures which in contact with water emit flammable gases Not applicable m) Oxidizing

liquids Not applicable n) Oxidizing solids Not

applicable o) Organic peroxides Not

applicable p) Corrosive to metals Not

applicable q) Desensitized explosives Not applicable

9.2.2 Other safety properties a) mechanical

sensitivity: No data available. b) self-

accelerating polymerization temperature: No data available. c)

formation of explosive dust/air mixtures: Not applicable. d) acid/base

reserve: No data available. e) evaporation

rate: No data available. f) miscibility:

No data available. g) conductivity: No

data available. h) corrosive

action: Not applicable. i) gas group:

No data available. j) redox

potential: No data available. k)

radical formation potential: No data available. l)

photocatalytic properties: No data available.

SECTION 10: STABILITY AND REACTIVITY**10.1 Reactivity** No

reactivity when stored and handled as intended.

10.2 Chemical stability Under

normal conditions of use and storage the product is stable.

10.3 Possibility of hazardous reactions The container contains gas

under increased pressure - it should be protected from sunlight, the temperature should not exceed 50

°C. Vapours form explosive mixtures with air.

10.4 Conditions to avoid High temperature,

ignition sources, open flames.

10.5 Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

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10.6 Hazardous decomposition products

They are not 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.

Ingredient Dose Hydrocarbon CAS No. C7, n-alkanes, isoalkanes,

cyclics, < 5% n-hexane

			value	unit
	92128-66-0	LD50 – oral route rat	> 5000	mg/kg
		LD50 – rabbit skin	> 2920	mg/kg
		LC50 - respiratory tract rat	> 20	mg/l (4h)
Dec-1-ene, homopolymer, hydrogenated dec-1-ene, oligomers, hydrogenated	68037-01-4	LD50 – oral route rat	> 5000	mg/kg
		LD50 – rabbit skin	>2000	mg/kg
		LC50 - respiratory tract rat	5200	mg/m3 (4h)
Cyclohexane	110-82-7	LD50 – oral route rat	> 5000	mg/kg
		LD50 – rat skin	>2000	mg/kg
n-Hexane	110-54-3	LD50 – oral route rat	16000	mg/kg
		LD50 – rabbit skin	>3350	mg/kg
		LC50 - respiratory tract rat	>259	g/m3 (4h)
2-(2-butoxyethoxy)ethanol	112-34-5	LD50 – oral route rat	>2000	mg/kg
		LD50 – rabbit skin	>2000	mg/kg
Propan-2-ol	67-63-0	LD50 – oral route rat	>5000	mg/kg
		LD50 – rabbit skin	>5000	mg/kg
		LC50 - respiratory tract rat	>5	mg/l
Ethanol	64-17-5	LD50 – oral route rat	7060	mg/kg
		LD50 – rabbit skin	>20000	mg/kg
		LC50 - respiratory tract rat	>8000	mg/l (4h)
3-methoxy-3-methylbutan-1-ol	56539-66-3	LD50 - oral rat	4400	mg/kg
		LD50 – rat skin	>2000	mg/kg (OECD401)

Skin corrosion/irritation:

Irritating to skin.

Serious eye damage/eye irritation:

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

Respiratory or skin sensitisation:

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

Mutagenic effect on germ cells:

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

Carcinogenicity:

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

Reproductive toxicity:

Suspected of damaging fertility.

Specific target organ toxicity – single exposure:

May cause drowsiness or dizziness.

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Specific target organ toxicity – repeated exposure:

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard:

May be fatal if swallowed and enters airway.

11.2 Information about other threats

11.2.1. Endocrine disrupting properties

Does not contain ingredients that are considered to disrupt the functioning of the endocrine system in accordance with Art. 57(f) of the REACH Regulation or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 at a concentration of 0.1% or higher.

11.2.2. Other information

No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Ingredient	Dose Hydrocarbons, n-alkanes, isoalkanes, cyclics, < 5% n-hexane	CAS No.	value	unit.
Cyclohexane	110-82-7	92128-66-0 LL50 – fish (<i>Oncorhynchus mykiss</i>)	11.4	mg/l (96h)
		EL50 - invertebrates (<i>Daphnia magna</i>)	3	mg/l (48h)
		EL50 - algae (<i>Pseudokirchneriella subcapitata</i>)	30-100	mg/l (72h)
		LC50 - fish (<i>Pimephales promelas</i>)	93-117	mg/l (24h)
		EC50 - invertebrates (<i>Daphnia magna</i>)	3.78	mg/l (48h)
n-Hexane		EC50 - algae (<i>Chlorella vulgaris</i>)	31.9	mg/l (48h)
		EC50 - algae (<i>Chlamydomonas sp.</i>)	38.2	mg/l (48h)
		> 100 110-54-3 NOELR - fish (<i>Oncorhynchus mykiss</i>)	2.8	mg/l (3h)
		invertebrates (<i>Daphnia magna</i>)	4.888	mg/l (3h)
		EL50 - algae	12.51	mg/l (7 days)
2-(2-Butoxyethoxy)ethanol	112-34-6	invertebrates (<i>Daphnia magna</i>)	21.85	mg/l (28 days)
		EL50 - algae	9.285	mg/l (21 days)
		LC50 – fish (<i>Poecilia reticulata</i>)	1150	mg/l (7 days)
		LC50 - fish (<i>Carassius auratus</i>)	2750	mg/l (24h)
		EC50 - invertebrates (<i>Daphnia magna</i>)	2850-3424	mg/l (24h)
Propan-2-ol	67-63-0	EC10- bacteria (<i>Pseudomonas putida</i>)	1170	mg/l (16h)
		LC50 – fish (<i>Pimephales promelas</i>)	9640-11130	mg/l (96h)
		LC50 – fish (<i>Carassius auratus</i>)	> 5000	mg/l (24h)
		LC50 - fish (<i>Leuciscus idus melanotus</i>)	8970-9280	mg/l (48h)
		EC50 – invertebrates (<i>Daphnia magna</i>)	> 10000	mg/l (24h)
Ethanol	64-17-5	EC50 – algae (<i>Scenedesmus subspicatus</i>)	> 1000	mg/l (72h)
		EC50 – bacteria (<i>Pseudomonas putida</i>)	1050	mg/l (16h)
		EC50 – protozoa (<i>Entosiphon sulcatum</i>)	4930	mg/l (72h)
		LC50 - fish	8140	mg/l (48h)
		EC50 – invertebrates (<i>Daphnia magna</i>)	> 7800	mg/l (48h)
3-methoxy-3-methylbutan-1-ol		EC50 - algae	5000	mg/l (72h)

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56539-66-3 LC50 – fish (<i>Oryzias latipes</i>)	>100	mg/l (96h)
EC50 – invertebrates (<i>Daphnia magna</i>)	> 10000	mg/l (48h)
NOEC – invertebrates (<i>Daphnia magna</i>)	100	mg/l (21 days)
NOEC – algae (<i>Pseudokirchneriella subspitata</i>) 1000		mg/l (72h)
ErC50 – algae (<i>Pseudokirchneriella subspitata</i>) >1000		mg/l (72h)
EC50 – microorganisms >1000		mg/l (3h)
EC50 – protozoa (<i>Entosiphon sulcatum</i>) 4930		mg/l (72h)

12.2 Persistence and degradability

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane: readily biodegradable

n-hexane: easily biodegradable

Cyclohexane: easily biodegradable

2-(2-Butoxyethoxy)ethanol: readily biodegradable

Propan-2-ol: readily biodegradable (> 70 % after 10 days; > 95 % after 28 days, OECD 301 E).

Ethanol: easily biodegradable

3-methoxy-3-methylbutan-1-ol: readily biodegradable (100% after 28 days OECD302C; 78.9% after 28 days, OECD 310).

12.3 Bioaccumulative potential

Octanol/water partition coefficient (log Ko/w): No data available for the mixture.

Propan-2-ol: 0.05 (low bioaccumulation potential)

Ethanol: 0.32 (non-bioaccumulative)

3-methoxy-3-methylbutan-1-ol: 0.18

Bioconcentration factor (BCF): No data available for the mixture.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

The mixture does not meet the PBT and vPvB criteria.

12.6 Endocrine disrupting properties

Does not contain ingredients that are considered to disrupt the functioning of the endocrine system in accordance with Art.

57(f) of the REACH Regulation or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 at a concentration of 0.1% or higher.

12.7 Other harmful effects

No data available

SECTION 13: WASTE CONSIDERATIONS

13.1 Waste disposal methods

Do not dispose of the product together with municipal waste, do not introduce it into the sewage system. Do not allow contamination of ground and surface water.

Hazardous waste*:

HP 3 "Flammable"

HP 4 "Irritating"

HP 5 "Specific Target Organ Toxicity (STOT) or Aspiration Hazard"

HP 10 "Toxic to reproduction"

HP 14 "Ecotoxic"

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**COMMISSION REGULATION (EU) No 1357/2014 of 18 December 2014 replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives (Official Journal of the EU, L.365, December 2014).*

Special precautions:

Dispose of the product and its packaging safely. Use caution when handling empty containers that have not been thoroughly cleaned. Vapours from product residues may create a flammable or explosive atmosphere inside the container. Do not cut or weld used containers unless they have been thoroughly cleaned.

Legal basis:

Announcement of the Speaker of the Sejm of the Republic of Poland of 7 July 2023 regarding the announcement of the consolidated text of the Act on Waste (Journal of Laws 2023, item 1587).

Announcement of the Marshal of the Sejm of the Republic of Poland of 7 July 2023 on the announcement of the uniform text of the Act on the management of packaging and packaging waste (Journal of Laws 2023, item 1658).

Act of 13 July 2023 amending the Act on the management of packaging and packaging waste and certain other acts (Journal of Laws 2023, item 1852).

Regulation of the Minister of Climate of 2 January 2020 on the waste catalogue (Journal of Laws item 10, 2020).

SECTION 14: TRANSPORT INFORMATION

ADR/RID, IMDG, IATA

14.1 UN number or ID number
1950

14.2 UN proper shipping name
Flammable AEROSOLS.

14.3 Transport hazard class(es)
2

14.4 Packing group
Lack.

14.5 Environmental hazards
The product poses a hazard to the environment according to the criteria in the UN Model Regulations.
Requires additional labeling.

14.6 Special precautions for users
Always transport in closed containers that are properly secured. Make sure that those transporting the product know what to do in the event of a failure.

14.7 Bulk sea transport in accordance with IMO instruments
Not applicable – the product is transported in sealed packaging.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental protection regulations specific to mixtures

ANNOUNCEMENT OF THE MARSHAL OF THE SEJM OF THE REPUBLIC OF POLAND of 22 July 2022 on the announcement of the uniform text of the act on chemical substances and their mixtures (Journal of Laws, item 1816, 29/08/2022).

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REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Official Journal of the European Union, series L, No 353 of 31 December 2008) with subsequent amendments (adaptations to technical progress 1 - 18 ATP).

REGULATION (EU) 2016/425 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC (Official Journal of the EU, series L/81 of 31.03.2016).

Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of harmful health factors in the work environment (Journal of Laws, item 1286, 2018)

REGULATION OF THE MINISTER OF FAMILY, LABOUR AND SOCIAL POLICY of 9 January 2020 amending the regulation on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws item 61, 2020)

Regulation of the Minister of Development, Labor and Technology of February 18, 2021 amending the regulation on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws, item 325, 2021).

Regulation of the Minister of Family and Social Policy of 18 August 2023 amending the regulation on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws, item 1661, 2023).

NOTICE OF THE MINISTER OF HEALTH of February 6, 2023 on the announcement of the uniform text of the regulation of the Minister of Health on tests and measurements of factors harmful to health in the work environment (Journal of Laws, item 419, 2023).

Announcement of the Minister of Health of 9 September 2016 on the announcement of a uniform text of the regulation of the Minister of Health on occupational health and safety related to the presence of chemical factors in the workplace (Journal of Laws, item 1488, 2016).

Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), done at Geneva on 30 September 1957 on the entry into force of amendments to Annexes A and B to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), done at Geneva on 30 September 1957 (Journal of Laws, item 891, 2023).

Announcement of the Speaker of the Sejm of the Republic of Poland of 7 July 2023 regarding the announcement of the consolidated text of the Act on Waste (Journal of Laws 2023, item 1587).

Announcement of the Marshal of the Sejm of the Republic of Poland of 7 July 2023 on the announcement of the uniform text of the Act on the management of packaging and packaging waste (Journal of Laws 2023, item 1658).

Act of 13 July 2023 amending the Act on the management of packaging and packaging waste and certain other acts (Journal of Laws 2023, item 1852).

REGULATION OF THE MINISTER OF CLIMATE of 2 January 2020 on the waste catalogue (Journal of Laws, item 10, 2020).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Official Journal of the European Union, series L, No 396 of 30 December 2006, as amended).

Announcement of the Minister of Entrepreneurship and Technology of 15 April 2019 on the announcement of the uniform text of the regulation of the Minister of Economy on detailed requirements for aerosol products (Journal of Laws 2019, item 975).

15.2 Chemical safety assessment

The supplier did not perform a chemical safety assessment of the mixture.

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SECTION 16: OTHER INFORMATION

The card was developed in the **Łukasiewicz Research Network - the Institute of Industrial Chemistry named after Professor Ignacy Mościcki in Warsaw** based on the recipe and ingredient safety data sheets.

Data for registered substances: <http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances>

The information provided in the safety data sheet is intended to describe the product only from the point of view of safety requirements. The user is responsible for creating conditions for safe use of the product and it is the user who takes responsibility for the consequences resulting from improper use of this product.

Other recipes:

Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC) as amended - none of the ingredients are listed

Regulation 1005/2009/EC on substances that deplete the ozone layer - none of the ingredients are listed

Regulation 2010/75/EC on persistent organic pollutants (POPs) as amended - none of the ingredients are listed.

List of substances subject to authorisation (REACH, Annex XIV)/SVHC-candidate list - none of the ingredients are listed.

List of substances subject to restrictions (REACH, Annex XVII):

Cyclohexane (CAS 110-82-7) is listed in Annex XVII of the REACH Regulation, item 57:

"1. Shall not be placed on the market for the first time after 27 June 2010 for supply to the general public as a component of neoprene-based contact adhesives in concentrations equal to or greater than 0,1 % by weight in packages greater than 350 g.

2. Neoprene-based contact adhesives containing cyclohexane and not conforming to the requirements of point 1 shall not be placed on the market for supply to the general public after 27 December 2010.

3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that neoprene-based contact adhesives containing cyclohexane in concentrations equal to or greater than 0,1 % by weight that are placed on the market for supply to the general public after 27 December 2010 are visibly, legibly and indelibly marked as follows:

— Do not use this product in poor ventilation.

— Do not use this product for laying carpets."

2-(2-Butoxyethoxy)ethanol (CAS 112-34-5) is listed in Annex XVII to REACH Regulation, item 55:

"1. Shall not be placed on the market after 27 June 2010 for supply to the general public, as a component of paints or cleaning products in aerosol dispensers, in a concentration equal to or greater than 3 % by weight.

2. Paints and cleaning products in aerosol dispensers containing DEGBE which do not meet the requirements of point 1) shall not be placed on the market for supply to the general public after 27 December 2010.

3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that paints other than spray paints containing DEGBE in concentrations equal to or greater than 3 % by weight placed on the market for supply to the general public are marked visibly, legibly and indelibly, by 27 December 2010, as follows: "Do not use in paint spraying equipment".

Regulation 273/2004 on drug precursors as amended - none of the ingredients are listed.

REGULATION OF THE MINISTER OF DEVELOPMENT of 29 January 2016 on the types and quantities of hazardous substances present in a plant, which determine whether the plant is classified as one with an increased or high risk of a serious industrial accident (Journal of Laws, 2016, item 138) –

Product: P3a FLAMMABLE AEROSOLS (increased risk plant – 150 tonnes net; high risk plant – 500 tonnes net), E2 Hazardous to the aquatic environment in the Chronic 2 category (increased risk plant – 200 tonnes; high risk plant – 500 tonnes).

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H phrases and acronyms of symbols, hazard classes and category codes used in Section 3. Safety data sheets:

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Irritating to skin.
H319	Irritating to eyes.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic organisms.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
Flam. Gas. 1	Flammable gases, hazard category 1.
Flam. Liq. 2	Flammable liquids, hazard category 2.
Asp. Tox. 1	Aspiration Hazard Category 1.
Skin Irrit. 2	Skin corrosion/irritation, hazard category 2.
Eye Irrit. 2	Serious eye damage/eye irritation, hazard category 2.
STOT SE 3	Specific target organ toxicity – single exposure, hazard category 3, narcotic effect.
Repr. 2	Reproductive toxicity, hazard category 2.
STOT RE 2	Specific target organ toxicity – repeated exposure, Hazard Category 2.
Aquatic Acute 1	Hazardous to the aquatic environment – acute hazard, category 1.
Aquatic Chronic 1	Posing a hazard to the aquatic environment – chronic hazard, category 1.
Aquatic Chronic 2	Posing a hazard to the aquatic environment – chronic hazard, category 2.

Classification method:

Aerosol 1; H222 – based on the content of flammable components and combustion heat
 Asp. Tox. 1; H304 – based on the content of ingredients classified as H304 Skin Irrit. 2; H315 – additivity method
 Repr. 2; H361f - based on generic concentration limit
 STOT SE 3; H336 - based on generic concentration limit
 STOT RE 2; H373 - based on specific concentration limit
 Aquatic Chronic 2; H411 - method of summing the concentrations of classified components

Abbreviations:

OEL - The highest permissible concentration at the workplace - the highest permissible weighted average concentration, the impact of which on an employee during an 8-hour working time, throughout his entire professional activity, should not cause any changes in his health or in the health of his future generations

OELCh - Maximum allowable momentary concentration - the highest allowable momentary concentration established as an average value that should not cause negative changes in the health of the employee and in the health of his future generations if it is maintained in the work environment for no longer than 30 minutes during a work shift

NDSP - concentration value which cannot be exceeded at any time in the work environment due to a threat to the health or life of an employee

vPvB - Very persistent and very bioaccumulative substance

PBT - Persistent, Bioaccumulative and Toxic

DL50 – Lethal dose – a dose at which 50% of the tested animals die within a specified time period.

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CL50 – Lethal concentration - concentration at which 50% of the tested animals die within a specified time period.

CE50 – Effective concentration – effective concentration of a substance causing a response of 50% of the maximum value

ATE – Acute Toxicity Estimate

DNEL - No Harmful Effect Level for Human Health - a level of exposure to a substance that does not cause any harmful effects on human health

PNEC - Predicted No Effect Concentration - the concentration of a substance below which no harmful effects on the environment are expected

OECD - Organisation for Economic Co-operation and

Development BCF - Bioconcentration factor (bioconcentration) - the ratio of the concentration of a substance in an organism to its concentration in water at equilibrium

ADR - European agreement concerning the international carriage of dangerous goods by road (English)

Agreement on Dangerous Goods by Road)

RID – Regulations Concerning the International Transport of Dangerous Goods by Rail

IMDG – International Maritime Dangerous Goods Code

IATA - International Air Transport Association *International Air Transport Association)*

IMO - International Maritime Organization

CAS – the number assigned to a chemical substance in the *Chemical Abstracts Service* inventory

EC - reference number used in the European Union to identify dangerous substances, in particular those registered in the European Inventory of Existing Chemical Substances (EINECS), or in the European List of Notified Chemical Substances (ELINCS), or the list of chemical substances listed in the publication "No-longer polymers"

UN number – a four-digit identification number of a material in the UN Hazardous Materials Inventory, derived from the UN Model Regulations, to which an individual material, mixture or article is classified

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