

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

Label remover spray

UFI number: 6J10-20D3-Y009-R4W7

1.2 Relevant identified uses of the mixture and uses advised against

Identified uses: Product used for removing labels sprayed with a mixture of propane/butane/isobutane/carbon dioxide.

Uses advised against: not determined.

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

Barbara Kaczmarczyk ul. Kochanowskiego 9 40-035 Katowice Tel. +48 503 017 712

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 9:00-16:00): + 48 503 017 712

Date prepared: 27/09/2023

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).* *Based on Article 23 of Regulation (EC) No

1272/2008: "Derogations from labelling requirements for specific cases": Shall not be used on the packaging of aerosols and containers with a sealed spray attachment containing substances or mixtures classified as presenting an aspiration hazard.

Skin corrosion/irritation, hazard category 2 (Skin Irrit. 2)

Causes skin irritation (H315)

Skin sensitization, hazard category 1 (Skin Sens. 1).

May cause an allergic skin reaction (H317).

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

May cause drowsiness or dizziness (H336).

Posing a hazard to the aquatic environment – chronic hazard, category 3 (Aquatic Chronic 3)

Harmful to aquatic life with long lasting effects. (H412)

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Harmful effects on human health:

In case of significant concentrations of vapors or direct contact of the product with the eyes, irritation, redness, tearing may occur. Contact with skin may cause itching, local redness, inflammation. Sensitized persons may experience a strong allergic reaction even to very small amounts of the product. Inhalation of vapors may cause fatigue, weakness, drowsiness, nausea, headaches, dizziness, cough, labored breathing. After ingestion (unlikely route of exposure because the product is in a sealed container) it causes nausea, vomiting with the risk of aspiration, which may cause aspiration into the respiratory tract, leading to pneumonia or pulmonary edema.

Effects on the environment:

Harmful to aquatic life with long lasting effects.

Effects related to physicochemical properties:

Product vapors are heavier than air, may form explosive mixtures with air. Pressurized container. Heating may increase pressure and rupture the package.

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.
 H317 - May cause an allergic skin reaction.
 H336 - May cause drowsiness or dizziness.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements:

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.
 P251 - Do not pierce or burn, even after use.
 P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C.
 P280 - Wear protective gloves/eye protection/face protection.
 P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.

Additional labeling requirements:

Contains: Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cycloalkanes, < 2% aromatics; Hydrocarbons, C11-C13, n-alkanes, isoalkanes, cycloalkanes, < 2% aromatics; Hydrocarbons, terpene processing by-products; Orange fruit extract

Regulation 648/2004:

Contains: **ÿ 30% aliphatic hydrocarbons; Fragrance.**

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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.

For consumer use, the packaging should be equipped with a tactile warning of danger.

2.3 Other threats

The mixture does not meet the PBT and vPvB criteria. It does not demonstrate endocrine disrupting effects.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixture

Label remover 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, C9 - C11, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics Registration number: 01-2119463258-33-XXXX	lack	lack	919-857-5*	< 40	Flam. Liq. 3 Asp. Tox. 1 STOT SE 3	H226 H304 H336 EUH066**
Hydrocarbons, C10 - C13, n-alkanes, isoalkanes, cycloalkanes, < 2% aromatics Registration number: 01-2119457273-39-XXXX	lack	lack	918-481-9*	<25	Asp. Tox. 1	H304 EUH066**
Propane	601-003-00-5	74-98-6	200-827-9	< 15	Flame Gas 1 Press. Gas (Liq.)*	H220
Butane	601-004-00-0	106-97-8	203-448-7	< 10	Flame Gas 1 Press. Gas (Liq.)*	H220
Hydrocarbons, terpene by-products of processing Registration number: 01-2119980606-28-XXXX	lack	68956-56-9	273-309-3	< 6	Flam. Liq. 3 Asp. Tox. 1 Skin Irrit. 2 Eye Irrit. 2 Skin Sens. 1 Aquatic Chronic 2	H226 H304 H315 H319 H317 H411
Orange fruit extract Registration number: 01-2119493353-35-XXXX	lack	8028-48-6	232-433-8	< 6	Flam. Liq.3 Asp. Tox. 1 Skin Irrit. 2 Skin Sens.1 Aquatic Chronic 2	H226 H304 H315 H317 H411
Carbon dioxide	lack	124-38-9	204-696-9	<3	lack	lack
1-methoxypropan-2-ol Registration number: 01-2119457435-35-XXXX	603-064-00-3	107-98-2	203-539-1	< 2	Flam. Liq. 3 STOT SE 3	H226 H336

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3-methoxy-3-methylbutane-1-ol Registration number: 01-2119976333-33-XXXX	lack	56539-66-3	260-252-4	< 2	Eye Irrit. 2	H319
Reaction mass $\gamma,\gamma,4$ -trimethyl-, (1S)-, 3-cyclohexene-1-methanol and $\gamma,\gamma,4$ -trimethyl-, (1R)-, 3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-Cyclohexanol Registration number: 01-2119553062-49-XXXX	lack	8000-41-7	701-188-3*	<0.6	Skin Irrit. 2 Eye Irrit. 2	H315 H319

* - temporary number assigned during the pre-registration process

** - The EUH066 phrase is only used on the label

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

sitting position,	Remove the injured person from the place of exposure, place them in a comfortable semi-recumbent or ensure calmness, protect against heat loss. If breathing difficulties occur, apply artificial respiration. If symptoms persist, call a doctor.
Skin contact:	Rinse immediately with plenty of water, remove contaminated clothing, wash skin with plenty of soap and water. If necessary, consult a doctor.
Eye contact:	Rinse immediately with plenty of lukewarm water, preferably running water, for at least 15 minutes. Remove contact lenses. Avoid strong water jets due to the risk of mechanical damage to the cornea. If irritation persists, consult an ophthalmologist.
Digestive tract:	If swallowed (unlikely route of exposure because product is in sealed container), do not induce vomiting. Rinse mouth with water and then give plenty of water to drink (if victim is conscious). Get medical attention.

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 may occur. Contact with skin may cause itching, local redness. Sensitive individuals may experience a strong allergic reaction even to very small amounts of the product. Inhalation of vapours may cause fatigue, weakness, drowsiness, nausea, headaches and dizziness, cough, labored breathing. After swallowing (unlikely route of exposure because the product is in a sealed package)

causes nausea, vomiting with the risk of aspiration, which may cause aspiration into the respiratory tract, leading to pneumonia or pulmonary edema.

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

If an allergic reaction (rash, swelling, redness) occurs, call a doctor and show him the label or safety data sheet for the use of appropriate antihistamines. Make the safety data sheet available to the doctor providing assistance.

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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

In a fire environment, they emit carbon oxides. 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. Use gas-tight clothing in an antistatic version, insulating respiratory protection equipment.

SECTION 6: MEASURES IN THE EVENT OF ACCIDENTAL ENVIRONMENTAL RELEASES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective clothing made of natural materials (cotton) or synthetic fibers, gloves made of nitrile rubber (thickness 0.4 mm) and goggles that protect against liquid drops. Eliminate sources of ignition (extinguish open flames, announce a ban on smoking and using sparking tools). Remove people not involved in eliminating the failure from the endangered area. Avoid direct contact with the mixture. Avoid inhaling vapors.

6.2 Environmental precautions

Prevent entry into sewers, surface and ground waters and soil.

6.3 Methods and materials for containment and cleaning up

Secure drains. If possible, eliminate leaks (close liquid supply, seal).

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 use of sparking tools). Absorb small quantities in a chemically inert binding material (sand, diatomaceous earth), transfer to closed containers and hand over for disposal or recovery. Rinse contaminated surface with 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

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ignition. Do not spray on a naked flame or incandescent material. Do not puncture or burn aerosol containers, even empty, after using the mixture. It is advisable to take precautions to avoid contact with skin and eyes when working with the mixture. Do not inhale vapours. Prevent from entering sewage systems, surface and ground water and soil. Do not eat, drink or smoke during use. Wash hands during breaks and after finishing work. Remove contaminated clothing, wash before re-wearing.

7.2 Conditions for safe storage, including any information mutual 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 systems. Pressurized containers: protect from sunlight. 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 harmful health factors 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)

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)

<u>Ingredient</u>	<u>CAS-No.</u>	<u>Standard</u>	<u>value</u>	<u>unit</u>
Propane	74-98-6	NDS	1800	mg/m3
Butane	106-97-8	NDSCh and NDSP	not determined	
		NDS	1900	mg/m3
		NDSP	3000	mg/m3
Carbon dioxide	124-38-9	NDS	not specified	
		NDSCh	9000	mg/m3
		NDSP	27000	mg/m3
1-Methoxypropan-2-ol	107-98-2	NDS	Not specified	
		NDSCh	180	mg/m3
		NDSP	360	mg/m3
		(skin)	not specified	

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

Hydrocarbons, terpene by-products of processing

DNELworker (skin, chronic toxicity, systemic effects) 0.8 mg/kg body weight/day

DNELworker (inhalation, chronic toxicity, systemic effects) 2.9 mg/m3

DNELconsumer (skin, chronic toxicity, systemic effects) 0.3 mg/kg body weight/day

DNELconsumer (inhalation, chronic toxicity, systemic effects) 0.7 mg/m3

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DNELconsumer (oral, chronic toxicity, systemic effects) 0.3 mg/kg body weight/day

PNECfreshwater: 2.1 µg/l

PNECsea water: 0.21 µg/l

PNEC fresh water sediment: 54.2 mg/kg sediment

PNECseawater sediment: 54.2 µg/kg sediment

PNECsewage treatment plant: 6.4 mg/l

PNECsoil: 110 µg/kg soil

Reaction mass of ̳,̳,4-trimethyl-, (1S)-, 3-cyclohexene-1-methanol and ̳,̳,4-trimethyl-, (1R)-, 3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol

DNELworker (skin, chronic, systemic) 6.36 mg/kg body weight/day

DNELworker (inhalation, chronic toxicity, systemic effects) 44.8 mg/m³

DNELconsumer (skin, chronic toxicity, systemic effects) 2.69 mg/kg body weight/day

DNELconsumer (inhalation, chronic toxicity, systemic effects) 7.96 mg/m³

DNELconsumer (oral, chronic toxicity, systemic effects) 2.69 mg/kg body weight/day

PNECfreshwater: 12 µg/l

PNECsea water: 1.2 µg/l

PNEC fresh water sediment: 0.263 mg/kg sediment

PNECseawater sediment: 0.026 µg/kg sediment

PNECsewage treatment plant: 2.57 mg/l

PNECsoil: 0.045 mg/kg soil 1-

methoxypropan-2-ol:

Long-term DNEL values for workers: 369 mg/m³

(respiratory) - systemic

DNEL values for workers: 553.5 mg/m³

(respiratory) - systemic and local

Long-term DNEL values for workers: 183 mg/kg

(skin) - systemic

Long-term DNEL values for general population: 43.9 mg/

m³ (inhalation) – systemic

Long-term DNEL values for general population: 78 mg/kg

(skin) - systemic

Long-term DNEL values for general population: 33 mg/kg

(oral) – systemic

PNEC values: 10

mg/l (freshwater) 1 mg/l

(marine water) 100 mg/l

(sewage treatment plant) 52.3 mg/kg

(sediment - freshwater) 5.2 mg/kg

(sediment - marine water) 4.59 mg/kg

(soil) **3-methoxy-3-**

methyl-1-butanol

Long-term DNEL values for workers: 18 mg/m³

(respiratory) - systemic

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

(skin) - systemic

Long-term DNEL values for general population: 4.4 mg/m³

(respiratory) – 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

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Long-term DNEL values for workers:

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31.1 mg/m³ (respiratory tract) – systemic

Long-term DNEL values for workers: _____

8.89 mg/kg (skin) – systemic

Long-term DNEL values for the general public: _____

7.78 mg/m³ (respiratory tract) – systemic

Long-term DNEL values for the general public: _____

4.44 mg/kg (skin) – systemic

Long-term DNEL values for the general public: _____

4.44 mg/kg (oral route) – systemic

PNEC values: _____

0.0054 mg/l (fresh water)

0.00054 mg/l (sea water)

2.1 mg/l (sewage treatment plant)

1.3 mg/kg (sediment - fresh water)

0.13 mg/kg (sediment - sea water)

0.261 mg/kg (soil)

0.00577 mg/l (sporadic release)

8.2 Exposure Control

8.2.1 Appropriate technical control measures

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. Provide an eyewash station.

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 fibers, gloves made of nitrile rubber (thickness 0.4 mm, breakthrough time \geq 480 min).

Eyes: Wear protective glasses such as goggles.

Occupational hygiene: General industrial hygiene regulations apply. Remove contaminated clothing after work. Wash hands and face before work breaks. Wash the entire body thoroughly after work. Do not eat, drink or smoke while working.

8.2.3 Environmental exposure controls

Prevent entry into municipal water and sewage systems and watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) State of matter

Liquid atomized with a mixture of butane/propane/isobutane/carbon dioxide.

b) Colour

The product is colourless or straw-coloured.

c) Smell

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Hydrocarbon. d)

Melting point/freezing point No data available.

e) Boiling point or initial boiling point and boiling range

> 150 0C (without propellant) f)

Flammability of materials

Not applicable.

g) Lower and upper explosion limits No data. h)

Flash point < 0

0C i) Auto-ignition temperature

No

data. j) Decomposition temperature

No data. k) pH

No data. l) Kinematic viscosity

No data. m)

Solubility The product

is slightly soluble 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 Approx. 0.8 (water

= 1). q)

Relative vapour density No

data

available. r) Particle

characteristics 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: Extremely flammable aerosol. Pressurized container: May burst 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.

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- 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 effect: Not applicable.
- i) gas group: Not applicable.
- 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

When stored and handled as intended – no reactivity.

10.2 Chemical stability

Under normal conditions of use and storage the product is stable.

10.3 Possibility of hazardous reactions

The container contains a mixture 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

Ignition sources, open flames.

10.5 Incompatible Materials

Strong oxidizers.

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:

Does not meet the classification criteria (ATE calculation method).

Ingredient Dose value Hydrocarbons, C9 – C11, n-alkanes, isoalkanes, cycloalkanes, < 2%

aromatics

DL50 - oral rat > 5000 DL50 - skin rabbit >

5000 CL50 - inhalation rat > 5000

Hydrocarbons, terpene by-products of

unit

mg/kg (OECD 401)

mg/kg (OECD 402)

mg/m³ (4h) (OECD 403)

processing

68956-56-9 DL50 - oral rat DL50 - skin rat

> 2000

> 2000

mg/kg (OECD 401)

mg/kg (OECD 402)

Reaction mass of 1,1,1,4-tetramethyl-, (1S)-, 3-cyclohexene-1-methanol and 1,1,1,4-tetramethyl-, (1R)-, 3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol

8000-41-7

DL50 - oral rat

DL50 - rat skin

> 2000

> 2000

mg/kg (OECD 401)

mg/kg (OECD 402)

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8028-48-6	DL50 oral rat mg/kg	5000
	DL50 skin rat mg/kg	5000
1-methoxypropan-2-ol 107-98-2	DL50 – oral route >2000-5000 mg/kg	
	DL50 - skin mg/kg	>2000
	CL50 – respiratory tract rat >25 mg/l	

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: _____

May cause an allergic skin reaction.

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: _____

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

Specific target organ toxicity – single exposure: _____

May cause drowsiness or dizziness.

Specific target organ toxicity – repeated exposure: _____

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

Aspiration hazard: _____

May be fatal if swallowed and enters airway.

11.2 Information about other threats

11.2.1. Endocrine disrupting properties

Contains no ingredients considered to be endocrine disruptors under Section 57(f) REACH Regulation or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 in concentration 0.1% or higher.

11.2.2. Other information

No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Acute toxicity: _____

<u>Component</u>	<u>CAS-No.</u>	<u>Dose</u>	<u>value</u>	<u>unit</u>
Hydrocarbons, C9 - C11, n-alkanes, cyclic isoalkanes, <2% aromatics		LL0 – fish (<i>Oncorhynchus mykiss</i>)	1000	mg/l (96h)
		EL50 – invertebrates (<i>Daphnia magna</i>)	1000	mg/l (48h)
		NOERL – algae (<i>Pseudokirchneriella subcapitata</i>)	1000	mg/l (72h)
Hydrocarbons, terpene by-products of processing	68956-56-9	CL50 – fish (<i>Danio rerio</i>)	5.07	mg/l (96h)
		CE50 – invertebrates (<i>Daphnia magna</i>)	2.1	mg/l (48h)
		CE50 – algae (<i>Pseudokirchneriella subcapitata</i>)	4.779	mg/l (72h)

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Reaction mass of $\dot{y},\dot{y},4$ -trimethyl-, (1S)-, 3-cyclohexene-1-methanol and $\dot{y},\dot{y},4$ -trimethyl-, (1R)-, 3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol

8000-41-7 CL50 – fish (<i>Danio rerio</i>)	\dot{y} 62	mg/l (96h)
EC50 – invertebrates (<i>Daphnia magna</i>) mg/l (48h)	73	
CE50 - algae (<i>Pseudokirchneriella subcapitata</i>) 68 mg/l (72h)		
1-methoxypropan-2-ol 107-98-2 CL50 – fish (<i>Pimephales promelas</i>) mg/l (96h)	20800	
CL50 – fish (<i>Oncorhynchus mykiss</i>) \dot{y} 1000 mg/l (96h)		
CL50 - fish (<i>Leuciscus idus melanotus</i>) mg/l (96h)	6812	
CL50 – invertebrates (<i>Daphnia magna</i>) 21100-25900 mg/l (48h)		
CEr50 – algae (<i>Pseudokirchneriella subspitata</i>) 1000 mg/l (7 days)		

12.2 Persistence and degradability

Biodegradation:

Hydrocarbons, C9 - C11, n-alkanes, isoalkanes, cycloalkanes < 2% aromatics: readily biodegradable

Hydrocarbons, C11-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics: readily biodegradable

1-methoxypropan-2-ol: readily biodegradable (96% after 28 days)

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 (Kow): no data available for the mixture.

Hydrocarbons, terpene processing by-products: \dot{y} 3

Reaction mass of $\dot{y},\dot{y},4$ -trimethyl-, (1S)-, 3-cyclohexene-1-methanol and $\dot{y},\dot{y},4$ -trimethyl-, (1R)-, 3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol: 2.6

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

12.4 Mobility in soil

Hydrocarbons, C9 – C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics: Volatile product, evaporates quickly. Accumulation in sediments and solids in wastewater is not expected.

Mobility potential in soil $K_{oc}=1.3 - 6$ (estimated)

12.5 Results of PBT and vPvB assessment

The mixture does not meet the PBT and vPvB criteria.

12.6 Endocrine disrupting properties

Contains no ingredients considered to be endocrine disruptors under Section 57(f)

REACH Regulation or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 in concentration 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) and Aspiration Hazard"

HP 13 "Sensitizing"

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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

product and its packaging safely. Care should be taken when handling emptied containers that have not been cleaned or rinsed thoroughly. Vapours from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been thoroughly cleaned inside.

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)

2.1

14.4 Packing group

-

14.5 Environmental hazards

The product does not pose a hazard to the environment according to the criteria of the UN Model Regulations.

14.6 Special precautions for users

Make sure that people transporting the product know what to do in the event of a failure or spillage of the product.

14.7 Bulk sea transport in accordance with IMO instruments

Not applicable.

SECTION 15: REGULATORY INFORMATION**15.1 Safety, health and environmental regulations specific to the substance or mixture**

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 harmful health factors in the work environment (Journal of Laws, item 325, 2021).

Regulation of the Minister of Health of 2 February 2011 on tests and measurements of factors harmful to health in the work environment (Journal of Laws No. 33, item 166, 2011).

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 26 July 2005 on the entry into force of amendments to Annexes A and B of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) concluded in Geneva on 30 September 1957 (Journal of Laws No. 178, item 1481, 2005 with subsequent amendments).

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).

15.2 Chemical safety assessment

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

SECTION 16: OTHER INFORMATION

The safety data sheet was developed by the supplier based on the component safety data sheets and updated in the **Yukasiewicz Research Network - Industrial Chemistry Institute named after prof. I. Mościcki in Warsaw**.

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

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Regulation 2019/1021 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 restricted substances (REACH, Annex XVII) - none of the ingredients are listed.

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

Regulation 2019/1148 on explosives precursors - 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) - Butane (CAS 106-97-8), Propane (CAS 74-98-6), Isobutane (CAS 75-28-5): category P1 (increased risk plant – 10 tonnes/year; high risk plant – 50 tonnes/year)

Classification method:

Aerosol 1; H222 – based on the content of flammable components and combustion heat

Skin Irrit. 2; H315 – additive method

STOT SE 3; H336 - based on generic concentration limit

Aquatic Chronic 3; H412 - method of summing the concentrations of classified ingredients

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 he who takes responsibility for the consequences resulting from improper use of this product.

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

H220 Extremely flammable gas.

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airway.

H315 Irritating to skin.

H317 May cause an allergic skin reaction.

H319 Irritating to eyes.

H336 May cause drowsiness or dizziness.

H400 Very toxic to aquatic organisms.

H411 Toxic to aquatic life with long lasting effects.

EUH066 Repeated exposure may cause skin dryness or cracking.

Flam. Gas 1 Flammable gas, hazard category 1.

Press. Gas Gas under pressure (liquefied gas).

Flam. Liq. 3 Flammable liquid, hazard category 3.

Asp. Tox. 1 Aspiration Hazard Category 1.

Skin Sens. 1 Skin sensitisation, hazard category 1.

Skin Irrit. 2 Skin irritation, hazard category 2.

Eye Irrit. 2 Eye irritation, hazard category 2.

STOT SE 3 Specific target organ toxicity – single exposure, hazard category 3, narcotic effect.

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

Abbreviations:

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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

DSB - Permissible concentration in biological material - the highest permissible level of a specific factor or its metabolite in the appropriate biological material or the highest permissible value of the appropriate indicator defining the impact of a chemical factor on the body

vPvB - Very persistent and very bioaccumulative substance

PBT - Persistent, Bioaccumulative and Toxic

OECD - Organisation for Economic Co-operation and Development

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

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

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

LOEC - The lowest concentration causing an observable effect NOAEL - No

toxicologically significant effect for the highest tested concentration NOEC - The highest

concentration of a substance at which no effects are observed 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
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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