Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code: **411 00 20990-6408**
Product name **HEADLIGHT POLISHER**

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

Intended use **Spray product for polishing yellowed headlights**

1.3. Details of the supplier of the safety data sheet

Name **Meccanocar Italia S.r.l.**
Full address **Via San Francesco, 22**
District and Country **56033 Capannoli (PI)**
Italy

Tel. +39 0587 609433

Fax +39 0587 607145

e-mail address of the competent person
responsible for the Safety Data Sheet **moreno.meini@meccanocar.it**

1.4. Emergency telephone number

For urgent inquiries refer to **National Poisons Information Service: +44 121 507 4123**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Aerosol, category 1	H222	Extremely flammable aerosol.
	H229	Pressurised container: may burst if heated.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:

Signal words: Danger

Hazard statements:

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
EUH066	Repeated exposure may cause skin dryness or cracking.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C / 122°F.
P211	Do not spray on an open flame or other ignition source.

Contains: HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	**x = Conc. %**	**Classification 1272/2008 (CLP)**
BUTANE		
CAS 106-97-8	15 ≤ x < 16,5	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: C U
EC 203-448-7		
INDEX 601-004-00-0		
Reg. no. 01-2119474691-32-XXXX		
PROPANE		
CAS 74-98-6	10,5 ≤ x < 12	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: U
EC 200-827-9		
INDEX 601-003-00-5		
Reg. no. 01-2119486944-21-XXXX		
ISOBUTANE		
CAS 75-28-5	10,5 ≤ x < 12	Flam. Gas 1A H220, Press. Gas H280
EC 200-857-2		

INDEX 601-004-00-0		
Reg. no. 01-2119485395-27-XXXX		
HYDROCARBONS, C11-C13, ISOALKANS, <2% AROMATIC		
CAS 246538-78-3	8 ≤ x < 9	Asp. Tox. 1 H304, EUH066
EC 920-901-0		
INDEX -		
Reg. no. 01-2119456810-40-XXXX		
HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC		
CAS 64742-48-9	4,5 ≤ x < 5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H336, EUH066
EC 919-857-5		
INDEX -		
Reg. no. 01-2119463258-33-XXXX		
2-BUTOXYETHANOL		
CAS 111-76-2	1,5 ≤ x < 2	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315
EC 203-905-0		
INDEX 603-014-00-0		
Reg. no. 01-2119475108-36-XXXX		
AMMONIA		
CAS 1336-21-6	0,25 ≤ x < 0,3	Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335, Aquatic Acute 1 H400 M=1, Classification note according to Annex VI to the CLP Regulation: B
EC 215-647-6		
INDEX 007-001-01-2		
MORPHOLINE		
CAS 110-91-8	0,25 ≤ x < 0,3	Flam. Liq. 3 H226, Acute Tox. 3 H311, Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Corr. 1B H314, Eye Dam. 1 H318
EC 203-815-1		
INDEX 613-028-00-9		
2-METHOXYETHANOL		
CAS 109-86-4	0,05 ≤ x < 0,1	Flam. Liq. 3 H226, Repr. 1B H360FD, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332
EC 203-713-7		
INDEX 603-011-00-4		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

The product is an aerosol containing propellants. For the purposes of calculation of the health hazards, propellants are not considered (unless they have health hazards). The percentages indicated are inclusive of the propellants.

Percentage of propellants: 37,00 %

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.
INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.
INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
If overheated, aerosol cans can deform, explode and be propelled considerable distances. Put a protective helmet on before approaching the fire. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site. Send away individuals who are not suitably equipped. Wear protective gloves / protective clothing / eye protection / face protection.

6.2. Environmental precautions

Do not disperse in the environment.

6.3. Methods and material for containment and cleaning up

Use inert absorbent material to soak up leaked product. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Avoid bunching of electrostatic charges. Do not spray on flames or incandescent bodies. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Do not eat, drink or smoke during use. Do not breathe spray.

7.2. Conditions for safe storage, including any incompatibilities

Store in a place where adequate ventilation is ensured, away from direct sunlight at a temperature below 50°C / 122°F, away from any combustion sources.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition,published 2018)
ITA	Italia	DIRETTIVA (UE) 2017/164 DELLA COMMISSIONE del 31 gennaio 2017
NOR	Norge	Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr. 62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
EU	TLV-ACGIH	ACGIH 2019
	RCP TLV	ACGIH TLVs and BEIs – Appendix H

BUTANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP		1000			Gases
VLEP	FRA	1900	800			
WEL	GBR	1450	600	1810	750	
TLV	NOR	600	250			
TLV-ACGIH					1000	

ISOBUTANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
RCP TLV			1000			RESP

PROPANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP		1000			
TLV	NOR	900	500			
TLV-ACGIH			1000			

HYDROCARBONS, C11-C13, ISOALKANS, <2% AROMATIC

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	1200	171			

2-BUTOXYETHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	98	20	245	50	SKIN
VLEP	FRA	49	10	246	50	SKIN
WEL	GBR	123	25	246	50	SKIN
VLEP	ITA	98	20	246	50	SKIN
TLV	NOR	50	10			SKIN
VLE	PRT	98	20	246	50	SKIN
OEL	EU	98	20	246	50	SKIN
TLV-ACGIH		97	20			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	8,8	mg/l
Normal value in marine water	0,88	mg/l
Normal value for fresh water sediment	34,6	mg/kg
Normal value for marine water sediment	3,46	mg/kg
Normal value of STP microorganisms	463	mg/l
Normal value for the food chain (secondary poisoning)	0,02	mg/kg
Normal value for the terrestrial compartment	2,33	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		26,7 mg/kg bw/d		6,3 mg/kg bw/d				
Inhalation	147 mg/m3	426 mg/m3		59 mg/m3	246 mg/m3			98 mg/m3

Skin	89 mg/kg/d	75 mg/kg bw/d	89 mg/kg bw/d	125 mg/kg bw/d

MORPHOLINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	36	10	72	20	
VLEP	FRA	36	10	72	20	
WEL	GBR	36	10	72	20	SKIN
VLEP	ITA	36	10	72	20	SKIN
TLV	NOR	36	10			SKIN
VLE	PRT	36	10	72	20	
OEL	EU	36	10	72	20	
TLV-ACGIH		71	20			SKIN

AMMONIA

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLEP	ITA	14	20	36	50	
OEL	EU	14	20	36	50	
TLV-ACGIH		17	25	24	35	

2-METHOXYETHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	3	1			SKIN
VLEP	FRA	3,2	1			SKIN
WEL	GBR	3	1			SKIN
VLEP	ITA		0,5			SKIN
TLV	NOR	3,1	1			SKIN
VLE	PRT		1			SKIN
OEL	EU		1			SKIN
TLV-ACGIH		0,31	0,1			SKIN

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

HAND PROTECTION
None required.

SKIN PROTECTION
Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, a mask with a type AX filter combined with a type P filter should be worn (see standard EN 14387).
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

ISOBUTANE

Suitable glove material protective gloves, e.g. nitrile butadiene rubber gloves (NBR), leather gloves, heat insulating
Selection of protective gloves to meet specific workplace requirements.
Suitability for specific workplaces must be clarified with the manufacturers of protective gloves.
The information is based on our tests, references from literature and information from glove manufacturers or derived by analogy with similar materials.
Remember that the useful time per day of a chemical protection glove can be much shorter than the breakthrough time determined according to EN 374 due to the numerous influencing factors involved.

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Chemical resistant gloves are recommended. Nitrile, standards CEN EN 420 and EN 374 provide general requirements and lists of types of gloves.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	aerosol
Colour	opalescent
Odour	characteristic, pungent
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	42,1 °C
Boiling range	Not available

Flash point	1,86 °C
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	1,9 % (V/V)
Upper inflammability limit	15 % (V/V)
Lower explosive limit	1,9 % (V/V)
Upper explosive limit	15 % (V/V)
Vapour pressure	275 1500
Vapour density	Not available
Relative density	0,85
Solubility	partially soluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2010/75/EC) : 43,78 % - 372,13 g/litre

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

2-BUTOXYETHANOL

Decomposes under the effect of heat.

MORPHOLINE

On contact with: strong oxidising agents,reducing agents,strong acids,strong bases.May develop: heat.

AMMONIA

Corrodes: aluminium,iron,zinc,copper,copper alloys.

2-METHOXYETHANOL

Decomposes under the effect of heat.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

2-METHOXYETHANOL

Stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

BUTANE

Vapors can form an explosive mixture with air.

ISOBUTANE

Vapors can form an explosive mixture with air.

2-BUTOXYETHANOL

May react dangerously with: aluminium,oxidising agents.Forms peroxides with: air.

AMMONIA

Risk of explosion on contact with: strong acids,iodine.May react dangerously with: strong bases.

2-METHOXYETHANOL

Forms peroxides with: air,oxidising agents.Possibility of explosion.May react dangerously with: strong bases,aluminium,magnesium.

10.4. Conditions to avoid

Avoid overheating.

BUTANE

Avoid heat and sources of ignition.

ISOBUTANE

Keep away from heat and other causes of fire.

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Avoid heat, sparks, open flames and other sources of ignition.

2-BUTOXYETHANOL

Avoid exposure to: sources of heat,naked flames.

High temperatures and sources of ignition. Prolonged exposure with air / oxygen and light.

2-METHOXYETHANOL

Avoid exposure to: light,sources of heat,naked flames.

10.5. Incompatible materials

Strong reducing or oxidising agents, strong acids or alkalis, hot material.

BUTANE

Strong oxidizing agents, chlorine, oxygen.

ISOBUTANE

Strong oxidizing agents, chlorine, oxygen.

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Strong oxidants

2-BUTOXYETHANOL

Oxidizing agents.

AMMONIA

Incompatible with: silver,silver salts,lead,lead salts,zinc,zinc salts,hydrochloric acid,nitric acid,oleum,halogens,acrolein,nitromethane,acrylic acid.

10.6. Hazardous decomposition products

BUTANE

In case of fire or production of thermal decomposition, for example, carbon monoxide, carbon dioxide (CO2).

ISOBUTANE

In case of fire or production of thermal decomposition, for example, carbon monoxide, carbon dioxide (CO2).

2-BUTOXYETHANOL

May develop: hydrogen.

Carbon oxides.

AMMONIA

May develop: nitric oxide.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

2-METHOXYETHANOL

The effects usually appear after a delay of several hours. These combine digestive disorders with irritation (nausea, stomach pain, vomiting), neurological disorders (confusion, agitation, muscle weakness) and sometimes hyperventilation. In more severe cases, the patient goes into a coma. Some develop serious kidney damage. Chronic exposure by inhalation or via the skin cause chronic neuro-digestive symptoms and haematological diseases, as well as negative effects on male fertility. Exposure combined with other glycol ethers causes an increase in miscarriages. In fatal cases, there is a haemorrhagic gastritis and pancreatitis (INRS, 2014).

Interactive effects

Information not available

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:
Not classified (no significant component)
LD50 (Oral) of the mixture:
>2000 mg/kg
LD50 (Dermal) of the mixture:
>2000 mg/kg

HYDROCARBONS, C11-C13, ISOALKANS, <2% AROMATIC

LD50 (Oral) 5000 mg/kg Rat

LD50 (Dermal) 5000 mg/kg Rabbit

2-BUTOXYETHANOL

LD50 (Oral) 615 mg/kg Rat

LD50 (Dermal) 405 mg/kg Rabbit

LC50 (Inhalation) 2,2 mg/l/4h Rat

AMMONIA

LD50 (Oral) 350 mg/kg Rat

MORPHOLINE

LD50 (Oral) 1050 mg/kg Rat

LD50 (Dermal) 500 mg/kg Rabbit

LC50 (Inhalation) 35,1 mg/l/1h Rat

2-METHOXYETHANOL

LD50 (Oral) 2460 mg/kg Rat

LD50 (Dermal) 2000 mg/kg Rat

LC50 (Inhalation) > 12,4 mg/l/4h Rat

BUTANE

Method: Not indicated
Reliability: 2
Species: Rat (Alderley Park (SPF); male / female)
Route of exposure: Inhalation
Results: LC50: 1 443 mg / L air

PROPANE

Method: To study the concentrations at which the effects of the CNS occur following exposure by inhalation to propane by measuring LC50 (15 min) and EC50 (CNS) (10 min) in rats.
Reliability: 2
Species: Rat (Alderley Park (SPF); male / female)
Route of exposure: Inhalation
Results: LC50> 800 000 ppm

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: OECD 423
Reliability: 2
Species: Rat (Wistar; male / female)
Route of exposure: Oral

Results: LD50> 15 000 mg / kg bw
Method: Equivalent or similar to OECD 403
Reliability: 1
Species: Rat (Crj: CD (SD); male / female)
Route of exposure: Inhalation (vapors)
Results: LC50> 4 951 mg / m³ air
Method: Equivalent or similar to OECD 402
Reliability: 2
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: LD50> 5 000 mg / kg bw

2-BUTOXYETHANOL

Method: OECD 401
Reliability: 1
Species: guinea pig (Hartley; male / female)
Route of exposure: Oral
Results: LD50 = 1414 mg / kg bw
Method: CFR title 49, section 173.132
Reliability: 2
Species: Guinea pig (Dunkin-Hartley; male / female)
Route of exposure: Inhalation (vapor)
Results: Not classified
Method: OECD 402
Reliability: 1
Species: guinea pig (Hartley; male / female)
Route of exposure: Dermal
Results: Not classified

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: Equivalent or similar to OECD 404
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Irritating

2-BUTOXYETHANOL

Method: EU Method B.4
Reliability: 2
Species: Rabbit (New Zealand white; male / female)
Route of exposure: Dermal
Results: Irritating
Bibliographic reference: Jacobs G, Martens M, Mosselmans G, Proposal of limit concentrations for skin irritation within the context of a new EEC directive on the classification and labeling of preparations. (1987)

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: OECD 405
Reliability: 1

Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

2-BUTOXYETHANOL

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand white; male / female)
Route of exposure: Ocular
Results: Irritating

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

2-BUTOXYETHANOL

Method: OECD 406
Reliability: 1
Species: Guinea pig (Dunkin-Hartley; male / female)
Route of exposure: Dermal
Results: Not sensitizing
Method: Equivalent or similar to OECD 474-Test in vivo
Reliability: 1
Species: Mouse (B6C3F1)
Results: Negative

Skin sensitization
HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: OECD 406
Reliability: 2
Species: guinea pig (Hartley; female)
Route of exposure: Dermal
Results: Not sensitizing

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

BUTANE

Method: OECD 471 in vitro test
Reliability: 1
Species: Salmonella strains, S. typhimurium
Results: Negative without metabolic activation
Method: OECD 474-test in vivo
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation (gas)
Results: Negative

PROPANE

Method: OECD 471 in vitro test
Reliability: 1
Species: Histidine Salmonella
Results: Negative with or without metabolic activation

Method: OECD 474-test in vivo
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation (gas)
Results: Negative

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium
Results: Negative with or without metabolic activation
Method: Equivalent or similar to OECD 474 in vivo test
Reliability: 1
Species: Mouse (CD-1; male / female)
Route of exposure: Oral
Results: Negative

2-BUTOXYETHANOL

Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium TA 1535
Results: negative
Bibliographic reference:
Method: Equivalent or similar to OECD 474-Test in vivo
Reliability: 1
Species: Mouse (B6C3F1)
Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: Equivalent or similar to OECD 453
Reliability: 1
Species: Rat (F344 / N; male / female)
Route of exposure: Inhalation (vapors)
Results: NOAEC 138 mg / m^3 air

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

BUTANE

Method: OECD 413
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation
Results: NOAEC 10000 ppm

2-BUTOXYETHANOL

Method: Not indicated
Reliability: 1
Species: Mouse (CD-1; male / female)

Route of exposure: Oral
Results: NOAEL = 720 mg / kg bw / day
Bibliographic reference: Heindel JJ, Gulati DK, Russel VS, Reel JR, Lawton AD and Lamb JC, Assessment of Ethylene Glycol Monobutyl and monophenol Ether reproductive toxicity using a continuous breeding protocol in Swiss CD-1 mice (1990).

Adverse effects on sexual function and fertility
PROPANE

Method: OECD 413
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation
Results: NOAEC (fertility) 10 000 ppm

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: OECD TG 413
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: NOAEC> = 400 ppm

Adverse effects on development of the offspring
PROPANE

Method: EPA OPPTS 870.3700
Reliability: 1
Species: Rat (VAF / Plus®, Sprague-Dawley Derived (CD®) Crl: CD® IGS BR)
Route of exposure: Inhalation (gas)
Results: NOAEC (development) 10 426 ppm

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

BUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

ISOBUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

PROPANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

2-BUTOXYETHANOL

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

Route of exposure

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Dermal and inhalation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

BUTANE

Method: OECD 413
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (gas)
Results: NOAEC = 10000 ppm

ISOBUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

PROPANE

Method: OECD 422
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (gas)
Results: NOAEC 16 000 ppm

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: Equivalent or similar to OECD 422
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL> = 1000 mg / kg / day
Method: Equivalent or similar to OECD 413
Reliability: 1
Species: Rat (Albino; male / female)
Route of exposure: Inhalation (vapors)
Results: NOAEC 10186 mg / m3

2-BUTOXYETHANOL

Method: Equivalent or similar to OECD 408
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: Negative, NOAEL <69 mg / kg bw
Method: Equivalent or similar to OECD 453
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC <31 ppm
Method: Equivalent or similar to OECD 411
Reliability: 1
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: Negative; NOAEL> 150 mg / kg bw / day

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

SECTION 12. Ecological information

12.1. Toxicity

IDROCARBURI, C11-C13, ISOALCANI, <2% AROMATICI

LC50 - for Fish	1000 mg/l/96h
EC50 - for Crustacea	1000 mg/l/48h
EC50 - for Algae / Aquatic Plants	1000 mg/l/72h
Chronic NOEC for Crustacea	1 mg/l

AMMONIA

LC50 - for Fish	47 mg/l/96h Channa punctata
EC50 - for Crustacea	20 mg/l/48h Daphnia magna

12.2. Persistence and degradability

BUTANE
Quickly degradable in water.
2-BUTOXYETHANOL
Easily degradable.

BUTANE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

2-BUTOXYETHANOL

Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

AMMONIA

Degradability: information not available

MORPHOLINE

Solubility in water	1000 - 10000 mg/l

PROPANE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

2-METHOXYETHANOL

Solubility in water	1000000 mg/l

Rapidly degradable

12.3. Bioaccumulative potential

BUTANE

Partition coefficient: n-octanol/water	1,09

2-BUTOXYETHANOL

Partition coefficient: n-octanol/water	0,81

MORPHOLINE

Partition coefficient: n-octanol/water	-2,55
BCF	< 0,65

PROPANE

Partition coefficient: n-octanol/water	1,09

2-METHOXYETHANOL

Partition coefficient: n-octanol/water	-0,77

12.4. Mobility in soil

MORPHOLINE

Partition coefficient: soil/water	-0,6196

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

BUTANE
No waste key number according to the European list of waste types can be assigned to this product, since this classification is based on the use (not yet

determined) for which the product is intended for the consumer.
The key number for the waste must be determined according to the European waste type list (decision on the EU waste type list 2000/532 / EC) in collaboration with the disposal company / producer / authority Official.

ISOBUTANE
Compliance with local regulations, e.g. incineration through flaring system.
No waste key number according to the European list of waste types can be assigned to this product, since this classification is based on the use (not yet determined) for which the product is intended for the consumer.
The key number for the waste must be determined according to the European waste type list (decision on the EU waste type list 2000/532 / EC) in collaboration with the disposal company / producer / authority Official.

2-BUTOXYETHANOL
Dispose of as hazardous waste. Recover or recycle if possible. Otherwise incineration. Dispose according to local regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA:	1950

14.2. UN proper shipping name

ADR / RID:	AEROSOLS
IMDG:	AEROSOLS
IATA:	AEROSOLS, FLAMMABLE

14.3. Transport hazard class(es)

ADR / RID:	Class: 2	Label: 2.1
IMDG:	Class: 2	Label: 2.1
IATA:	Class: 2	Label: 2.1

14.4. Packing group

ADR / RID, IMDG, IATA:	-

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: --	Limited	Tunnel

		Quantities: 1 L	restriction code: (D)
	Special Provision: -		
IMDG:	EMS: F-D, S-U	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 150 Kg	Packaging instructions: 203
	Pass.:	Maximum quantity: 75 Kg	Packaging instructions: 203
	Special Instructions:	A145, A167, A802	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P3a

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product
Point 40

Substances in Candidate List (Art. 59 REACH)

2-METHOXYETHANOL

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Information not available

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Gas 1A	Flammable gas, category 1A
Aerosol 1	Aerosol, category 1
Aerosol 3	Aerosol, category 3
Flam. Liq. 3	Flammable liquid, category 3
Press. Gas (Liq.)	Liquefied gas
Press. Gas	Pressurised gas
Repr. 1B	Reproductive toxicity, category 1B
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
Skin Corr. 1B	Skin corrosion, category 1B
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may burst if heated.
H360FD	May damage fertility. May damage the unborn child.
H311	Toxic in contact with skin.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

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2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
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5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
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14. Regulation (EU) 2018/669 (XI Atp. CLP)
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16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Product`s classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.

The data for evaluation of chemical-physical properties are reported in section 9.