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 16120-3870**

Product name **G/R PLUS**

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

Intended use **Descaler for petrol fuel alimentation systems**

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**

Product distribution by:

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.
Acute toxicity, category 4	H332	Harmful if inhaled.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.

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.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H315	Causes skin irritation.

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.
P261	Avoid breathing spray.
P403	Store in a well-ventilated place.

Contains: XYLENE (MIXTURE OF ISOMERS)

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)**
XYLENE (MIXTURE OF ISOMERS)		
CAS 1330-20-7 EC 215-535-7 INDEX 601-022-00-9 Reg. no. 01-2119488216-32-XXXX	35 ≤ x < 37,5	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note according to Annex VI to the CLP Regulation: C
PROPANE		
CAS 74-98-6 EC 200-827-9 INDEX 601-003-00-5 Reg. no. 01-2119486944-21-XXXX	22,5 ≤ x < 24	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: U

4-HYDROXY-4-METHYLPENTAN-2-ONE		
CAS 123-42-2	22,5 ≤ x < 24	Flam. Liq. 3 H226, Repr. 2 H361, Eye Irrit. 2 H319, STOT SE 3 H335
EC 204-626-7		
INDEX 603-016-00-1		
Reg. no. 01-2119473975-21-XXXX		
BUTANE		
CAS 106-97-8	9 ≤ x < 10,5	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		
ISOBUTANE		
CAS 75-28-5	9 ≤ x < 10,5	Flam. Gas 1A H220, Press. Gas H280
EC 200-857-2		
INDEX 601-004-00-0		
Reg. no. 01-2119485395-27-XXXX		

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: 41,00 %

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 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.
INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
VLEP	ITA	221	50	442	100	SKIN
TLV	NOR	108	25			SKIN
VLE	PRT	221	50	442	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg
Normal value for marine water sediment	12,46	mg/kg
Normal value of STP microorganisms	6,58	mg/l
Normal value for the terrestrial compartment	2,31	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				12,5 mg/kg bw/d				
Inhalation	260 mg/m3	260 mg/m3	65,3 mg/m3	65,3 mg/m3	442 mg/m3	442 mg/m3	221 mg/m3	221 mg/m3
Skin				125 mg/kg bw/d				212 mg/kg bw/d

4-HYDROXY-4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	

VLA	ESP	241	50					
VLEP	FRA	240	50					
WEL	GBR	241	50	362	75			
TLV	NOR	120	25					
TLV-ACGIH		238	50					

Predicted no-effect concentration - PNEC		
Normal value in fresh water	2	mg/l
Normal value in marine water	0,2	mg/l
Normal value for fresh water sediment	7,4	mg/kg
Normal value for marine water sediment	0,74	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,31	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				1,67 mg/kg bw/d				
Inhalation				5,8 mg/m3	240 mg/m3			32,6 mg/m3
Skin				167 mg/kg bw/d				467 mg/kg bw/d

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			

ISOBUTANE

Threshold Limit Value

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

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	

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.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION
None required.

SKIN PROTECTION
Wear category II 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).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

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.

4-HYDROXY-4-METHYLPENTAN-2-ONE

Hand protection:
In case of prolonged contact, the following materials are recommended for protective gloves:
- For a resistance to DAA greater than 8 hours: butyl rubber PE / PA / PE (multilayer) - (PE = polyethylene; PA: polyamide)
- For resistance to DAA greater than 4 hours: PE / EVAL / PE (multilayer) - (PE = polyethylene; PA: polyamide)
For intermittent contact, the following materials are recommended for protective gloves:
- Resistance from 1 to 4 hours to DAA: Nitrile rubber Neoprene rubber Polyvinyl alcohol - PVAL
These recommendations do not apply to very thin gloves, 0.3mm or less.
-The resistance to DAA is less than 1 hour with the following protective glove materials (with a thickness greater than 0.3 mm): Polyvinyl chloride - PVC. Therefore they are not recommended for activities longer than 1 hour.

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.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	aerosol
Colour	colourless
Odour	characteristic of solvent
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	< 0 °C
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	0,74
Solubility	insoluble 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) : 58,12 % - 430,06 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.

4-HYDROXY-4-METHYLPENTAN-2-ONE

Decomposes at temperatures above 90°C/194°F.

10.2. Chemical stability

The product is 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.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage.Reacts violently with: strong oxidants,strong acids,nitric acid,perchlorates.May form explosive mixtures with: air.

4-HYDROXY-4-METHYLPENTAN-2-ONE

Risk of explosion on contact with: air,sources of heat.May react dangerously with: alkaline metals,amines,oxidising agents,acids.

ISOBUTANE

Vapors can form an explosive mixture with air.

BUTANE

Vapors can form an explosive mixture with air.

10.4. Conditions to avoid

Avoid overheating.

4-HYDROXY-4-METHYLPENTAN-2-ONE

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

Keep away from sources of heat and flames.

ISOBUTANE

Keep away from heat and other causes of fire.

BUTANE

Avoid heat and sources of ignition.

10.5. Incompatible materials

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

4-HYDROXY-4-METHYLPENTAN-2-ONE

Acid catalysts (sulfuric acid, hydrochloric acid, oxalic acid: Risk of violent reaction.
Bases (sensitive reaction), Acetic anhydride, Hydrogen peroxide (concentrated solutions)

ISOBUTANE

Strong oxidizing agents, chlorine, oxygen.

BUTANE

Strong oxidizing agents, chlorine, oxygen.

10.6. Hazardous decomposition products

4-HYDROXY-4-METHYLPENTAN-2-ONE

Thermal decomposition giving flammable and toxic products: Carbon oxides (by combustion)
in Acetone in the presence of alkali metals,
in mesityl oxide in the presence of iodine

ISOBUTANE

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

BUTANE

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

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

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

4-HYDROXY-4-METHYLPENTAN-2-ONE

WORKERS: inhalation; contact with the skin.

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

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

4-HYDROXY-4-METHYLPENTAN-2-ONE

Acute toxicity causes irritation of the eyes, nose and throat in humans at 100 ppm (476 mg/kg) and pulmonary disorders at 400 ppm. No chronic effects on humans have been reported. The substance may have a depressive effect on the respiratory centres and cause death from respiratory failure.

Interactive effects

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:
18,03 mg/l
LD50 (Oral) of the mixture:
Not classified (no significant component)
LD50 (Dermal) of the mixture:
1802,78 mg/kg

4-HYDROXY-4-METHYLPENTAN-2-ONE

LD50 (Oral) 4000 mg/kg Rat

XYLENE (MIXTURE OF ISOMERS)

Method: Equivalent or similar to EU Method B.1
Reliability: 1
Species: Rat (F344 / N; male / female)
Route of exposure: Oral
Results: LD50 = 3523 mg / kg bw
Method: Equivalent or similar to EU Method B.2
Reliability: 2
Species: Rat (male)
Route of exposure: Inhalation (vapors)
Results: LD50 = 6700 ppm

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

BUTANE

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

SKIN CORROSION / IRRITATION

Causes skin irritation

4-HYDROXY-4-METHYLPENTAN-2-ONE

Method: Equivalent or similar to OECD Guideline 404
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Cutaneous
Results: mildly irritating

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

4-HYDROXY-4-METHYLPENTAN-2-ONE

Method: OECD Guideline 405
Reliability: 2
Species: Rabbit
Route of exposure: Ocular
Results: Irritating

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

XYLENE (MIXTURE OF ISOMERS)

Method: Equivalent or similar to EU Method B.10-in vitro test
Reliability: 2
Species: Chinese hamster
Results: Negative with and without metabolic activation
Method: Equivalent or similar to OECD 478
Reliability: 2
Species: Mouse (Swiss Webster; male / female)
Route of exposure: Dermal
Results: Negative

4-HYDROXY-4-METHYLPENTAN-2-ONE

Method: OECD Guideline 471-in vitro test
Reliability: 1
Species: S. typhimurium

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

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

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

XYLENE (MIXTURE OF ISOMERS)

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

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

Adverse effects on sexual function and fertility
XYLENE (MIXTURE OF ISOMERS)

Method: Not indicated
Reliability: 2
Species: Rat (Crl-CD® (SC) BR; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC (fertility) = 500 ppm

4-HYDROXY-4-METHYLPENTAN-2-ONE

Method: OECD Guideline 422

Reliability: 2
Species: Rat (SD (Crj: CD (SD)) SPF; male / female)
Route of exposure: Oral
Results: NOAEL 100 mg / kg bw / day

PROPANE

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

Adverse effects on development of the offspring
XYLENE (MIXTURE OF ISOMERS)

Method: Equivalent or similar to OECD 414
Reliability: 2
Species: Rat (Sprague-Dawley)
Route of exposure: Inhalation (vapors)
Results: Negative (development)

4-HYDROXY-4-METHYLPENTAN-2-ONE

Method: OECD Guideline 414
Reliability: 1
Species: Rat (Sprague-Dawley)
Route of exposure: Oral
Results:> = 1 000 mg / kg bw / day

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

XYLENE (MIXTURE OF ISOMERS)

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

4-HYDROXY-4-METHYLPENTAN-2-ONE

Based on available data and through expert judgment, the substance is 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.

ISOBUTANE

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

BUTANE

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

Target organ
4-HYDROXY-4-METHYLPENTAN-2-ONE

Respiratory tract

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

XYLENE (MIXTURE OF ISOMERS)

Method: Equivalent or similar to OECD 408
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: Negative

4-HYDROXY-4-METHYLPENTAN-2-ONE

Method: OECD Guideline 408
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL 600 mg / kg bw / day

PROPANE

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

BUTANE

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

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

SECTION 12. Ecological information

12.1. Toxicity

XYLENE (MIXTURE OF ISOMERS)	
LC50 - for Fish	2,6 mg/l/96h
EC50 - for Crustacea	1 mg/l/48h
EC50 - for Algae / Aquatic Plants	1,3 mg/l/72h
EC10 for Algae / Aquatic Plants	0,44 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	0,44 mg/l

12.2. Persistence and degradability

XYLENE (MIXTURE OF ISOMERS)
Rapidly degradable in water, 98% in 28 days
BUTANE
Quickly degradable in water.

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

XYLENE (MIXTURE OF ISOMERS)	
Solubility in water	100 - 1000 mg/l
Degradability: information not available	

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

4-HYDROXY-4-METHYLPENTAN-2-ONE	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

BUTANE	
Partition coefficient: n-octanol/water	1,09

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9

PROPANE	
Partition coefficient: n-octanol/water	1,09

4-HYDROXY-4-METHYLPENTAN-2-ONE	
Partition coefficient: n-octanol/water	-0,09

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)

Partition coefficient: soil/water 2,73

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.

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.

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.

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 Quantities: 1 L	Tunnel 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)

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

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

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

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. 2	Reproductive toxicity, category 2
Acute Tox. 4	Acute toxicity, category 4
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
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.
H361	Suspected of damaging fertility or the unborn child.

H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.

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
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
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.

Changes to previous review:
The following sections were modified:
02 / 08.