Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Code: **4110015490**
Product name **COPPER GREASE SPRAY**
UFI : **NK81-80PT-P00A-MYTF**

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

Intended use **Aerosol lubricating grease**

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**
Supplier:

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 2020/878.
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.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

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.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
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.
P273	Avoid release to the environment.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C / 122°F.

Contains: HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
METHYL ACETATE

2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC		
INDEX -	35 ≤ x < 37,5	Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 2 H411
EC 927-510-4		
CAS 64742-49-0		
REACH Reg. 01-2119475515-33-XXXX		
ISOBUTANE		
INDEX 601-004-00-0	10,5 ≤ x < 12	Flam. Gas 1A H220, Press. Gas H280
EC 200-857-2		
CAS 75-28-5		
REACH Reg. 01-2119485395-27-XXXX		
BUTANE		
INDEX 601-004-00-0	10,5 ≤ x < 12	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: C, U
EC 203-448-7		
CAS 106-97-8		
REACH Reg. 01-2119474691-32-XXXX		
PROPANE		
INDEX 601-003-00-5	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		
CAS 74-98-6		
REACH Reg. 01-2119486944-21-XXXX		
METHYL ACETATE		
INDEX 607-021-00-X	6 ≤ x < 7	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 201-185-2		
CAS 79-20-9		
REACH Reg. 01-2119459211-47-XXXX		
GRANULATED COPPER		
INDEX 029-024-00-X	4,5 ≤ x < 5	Aquatic Chronic 2 H411
EC 231-159-6		
CAS 7440-50-8		
METHANOL		
INDEX 603-001-00-X	0,15 ≤ x < 0,2	Flam. Liq. 2 H225, Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, STOT SE 1 H370
EC 200-659-6		STOT SE 2 H371: ≥ 3% - < 10%
CAS 67-56-1		ATE Oral: 100 mg/kg, ATE Dermal: 300 mg/kg, ATE Inhalation mists/powders: 0,501 mg/l
REACH Reg. 01-2119392409-28-		

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: 33,00 %

SECTION 4. First aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

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

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

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

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

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

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 2023
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
LTU	Lietuva	Jsakymas dėl lietuvos higienos normos hn 23:2011 „cheminių medžiagų profesinio poveikio ribiniai dydžiai. Matavimo ir poveikio vertinimo bendrieji reikalavimai“ patvirtinimo
NOR	Norge	Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255
PRT	Portugal	Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	TLV-ACGIH	ACGIH 2023
	RCP TLV	ACGIH TLVs and BEIs – Appendix H

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	1400				

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				149 mg/kg bw/d				
Inhalation				447 mg/m3				2085 mg/m3
Skin				149 mg/kg bw/d				300 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			
NDS/NDSCh	POL	1800				
TLV-ACGIH			1000			

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			
TLV	NOR	600	250			

NDS/NDSCh	POL	1900		3000			
WEL	GBR	1450	600	1810	750		
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

METHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	616	200	770	250	
VLEP	FRA	610	200	760	250	SKIN
RD	LTU	450	150	900	300	
TLV	NOR	305	100			
NDS/NDSCh	POL	250		600		
WEL	GBR	616	200	770	250	
TLV-ACGIH		606	200	757	250	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,12	mg/l
Normal value in marine water	0,012	mg/l
Normal value for fresh water sediment	0,128	mg/kg
Normal value for marine water sediment	0,013	mg/kg
Normal value of STP microorganisms	600	mg/l
Normal value for the food chain (secondary poisoning)	20,4	mg/kg
Normal value for the terrestrial compartment	0,042	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				44 mg/kg bw/d				
Inhalation			152 mg/m3	131 mg/m3			305 mg/m3	610 mg/m3
Skin				44 mg/kg bw/d				88 mg/kg bw/d

GRANULATED COPPER

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
VLA	ESP	0,01				RESP	Como Cu
VLEP	FRA	1		2			
RD	LTU	1				INHAL	Kaip Cu
RD	LTU	0,2				RESP	Kaip Cu

TLV	NOR	1	
NDS/NDSCh	POL	0,2	
WEL	GBR	0,2	As Cu
TLV-ACGIH		0,2	

METHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
VLA	ESP	266	200			SKIN	
VLEP	FRA	260	200	1300	1000	SKIN	11
VLEP	ITA	260	200			SKIN	
RD	LTU	260	200			SKIN	
TLV	NOR	130	100			SKIN	
VLE	PRT	260	200			SKIN	
NDS/NDSCh	POL	100		300		SKIN	
WEL	GBR	266	200	333	250	SKIN	
OEL	EU	260	200				
TLV-ACGIH		262	200	328	250	SKIN	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	20,8	mg/l
Normal value in marine water	2,08	mg/l
Normal value for fresh water sediment	77	mg/kg
Normal value for marine water sediment	7,7	mg/kg
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	100	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		4 mg/kg bw/d		4 mg/kg bw/d				
Inhalation	26 mg/m3	26 mg/m3	26 mg/m3	26 mg/m3	130 mg/m3	130 mg/m3	130 mg/m3	130 mg/m3
Skin		4 mg/kg bw/d		4 mg/kg bw/d		20 mg/kg bw/d		20 mg/kg bw/d

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 ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

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 ISO 16321).

RESPIRATORY PROTECTION
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. Use a mask with a type AX filter combined with a type P filter should be worn (see standard EN 14387).

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

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC

Chemical resistant gloves are recommended. If contact with forearms is likely, wear glove-style gloves. Nitrile, CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

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Suitable glove material protective gloves, e.g. nitrile butadiene rubber (NBR) gloves, leather gloves, heat insulating
Selection of protective gloves to meet the requirements of specific workplaces.
The suitability for specific workplaces must be clarified with the manufacturers of protective gloves.
The information is based on our own tests, references from the literature and information from glove manufacturers or derived by analogy with similar materials.
Remember that the usable time per day of a chemical protective 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

Properties	Value	Information
Appearance	aerosol	
Colour	copper	
Odour	characteristic of solvent	
Melting point / freezing point	not available	

Initial boiling point	not available
Flammability	not available
Lower explosive limit	not available
Upper explosive limit	not available
Flash point	not available
Auto-ignition temperature	not available
Decomposition temperature	not available
pH	not available
Kinematic viscosity	not available
Partition coefficient: n-octanol/water	not available
Vapour pressure	not available
Density and/or relative density	not available
Relative vapour density	not available
Particle characteristics	not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2010/75/EU)	71,50 %	-	500,50	g/litre
VOC (volatile carbon)	0			

SECTION 10. Stability and reactivity

10.1. Reactivity

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

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.

BUTANE

Vapors can form an explosive mixture with air.

ISOBUTANE

Vapors can form an explosive mixture with air.

10.4. Conditions to avoid

Avoid overheating.

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC

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

BUTANE

Avoid heat and sources of ignition.

ISOBUTANE

Keep away from heat sources and other sources of fire.

METHYL ACETATE

Static charge/discharge, vapor/aerosol formation, ignition sources.

10.5. Incompatible materials

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

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC

Strong oxidants.

BUTANE

Strong oxidizing agents, chlorine, oxygen.

ISOBUTANE

Strong oxidizing agents, chlorine, oxygen.

METHYL ACETATE

Oxidizing agents. Reacts with: alkali. The reaction causes the formation of: methanol and heat.

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).

SECTION 11. Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

METHANOL
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

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

METHANOL
The minimum lethal dose for humans by ingestion is considered to be in the range from 300 to 1000 mg/kg. Ingestion of 4-10 ml of the substance may cause permanent blindness in adult humans (IPCS).

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture:	> 5 mg/l
ATE (Oral) of the mixture:	>2000 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

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LD50 (Dermal):	> 2000 mg/kg Rat

METHANOL

ATE (Dermal):	300 mg/kg estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)
ATE (Oral):	100 mg/kg estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)
LC50 (Inhalation vapours):	> 87,6 mg/l/4h Rat
ATE (Inhalation mists/powders):	0,501 mg/l (figure used for calculation of the acute toxicity estimate of the mixture)

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Method: standard acute oral test
Reliability: 2
Species: Rat (Charles River CD; male/female)

Route of exposure: Oral
Results: LD50 > 8 mL/kg bw
Method: Equivalent or similar to OECD 403
Reliability: 2
Species: Rat (Wistar; male/female)
Route of exposure: Inhalation (vapours)
Results: LC50 > 23.3 mg/L air
Method: The acute toxicity of SBP 100/140 was determined according to Noakes and Sanderson (1969): A method for determining the dermal toxicity of pesticides, Br. J. Industr Med 26: 59-64.
Reliability: 2
Species: Rat (Charles River CD; male/female)
Route of exposure: Dermal
Results: LD50 >= 4 mL/kg bw

PROPANE
Method: To study the concentrations at which CNS effects occur following inhalation exposure 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

METHYL ACETATE
Method: Equivalent or similar to OECD 401
Reliability: 2
Species: Rat (Carworth-Wistar; male)
Route of exposure: Oral
Results: LD50=6482 mg/kg bw
Method: Not indicated
Reliability: 2
Species: Rabbit (Albino; male/female)
Route of exposure: Inhalation (vapours)
Results: Not indicated
Method: OECD 402
Reliability: 1
Species: Rat (Wistar; male/female)
Route of exposure: Dermal
Results: LD50>2000 mg/kg bw

SKIN CORROSION / IRRITATION

Causes skin irritation

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Method: Equivalent or similar to OECD 404
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Category 2, Irritant

METHYL ACETATE
Method: OECD 404
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Non-irritating

METHANOL
Method: Not indicated
Reliability: 2
Species: Rabbit (Vienna White)
Route of exposure: Dermal
Results: Non-irritating

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Method: Federal Register of the F.D.A. 28 (110), 6.6.1963, para. 191.12. Test for eye irritants
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Non-irritating

METHYL ACETATE
Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Irritating

METHANOL
Method: Not indicated
Reliability: 2
Species: Rabbit
Route of exposure: Ocular
Results: Non-irritating

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

Respiratory sensitization

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Method: Equivalent or similar to OECD 406
Reliability: 2
Species: Guinea pig
Route of exposure: Dermal
Results: Not sensitizing

Skin sensitization

METHANOL
Method: Equivalent or similar to OECD 406
Reliability: 2
Species: Guinea pig (Pirbright White; female)
Route of exposure: Dermal
Results: Not sensitizing

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC

Method: Equivalent or similar to OECD 471
Reliability: 1
Species: S. typhimurium, E. Coli
Results: Negative with or without metabolic activation
Bibliographic reference: Brooks, T.M. et al., The genetic toxicology of some hydrocarbon and oxygenated solvents (1988)

PROPANE
Method: OECD 471-in vitro test
Reliability: 1
Species: Histidine Salmonella
Results: Negative with or without metabolic activation
Method: OECD 474-in vivo test
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-in vivo test
Reliability: 1
Species: Rat (Sprague-Dawley CD; male/female)
Route of exposure: Inhalation (gas)
Results: Negative

METHYL ACETATE
Method: OECD 471-in vitro test
Reliability: 1
Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: OECD 474-in vivo test
Reliability: 1
Species: Rat (Sprague-Dawley; male/female)
Route of exposure: Inhalation
Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

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

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Method: Equivalent or similar to OECD 416
Reliability: 1
Species: Rat (Sprague-Dawley; male/female)
Route of exposure: Inhalation (vapours)
Results: NOAEL 9000 ppm

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

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Method: Food and Drug Administration 1966 "Guidelines for Reproduction Studies for Safety Evaluation of Drugs for Human Use", Segment II
Reliability: 2
Species: Rat (CD (SD))
Route of exposure: Inhalation (vapours)
Results: NOAEC 1 200 ppm

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

May cause drowsiness or dizziness

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Based on available data and expert judgment, the substance is classified in the single exposure target organ toxicity class.

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

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

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

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

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

Target organs

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Central nervous system

METHYL ACETATE
Central nervous system

METHANOL
Optic nerve (nervus opticus), central nervous system

Route of exposure

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Inhalation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Method: Not indicated
Reliability: 2
Species: Rat (Wistar; male)
Route of exposure: Inhalation (vapours)
Results: NOAEC 12 470 mg/m³ air
Bibliographic reference: Takeuchi, Y. et al., A comparative study of the toxicity of n-pentane, n-hexane, and n-heptane to the peripheral nerve of the rat. (1981)

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

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 expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

METHYL ACETATE
Method: OECD 412
Reliability: 1
Species: Rat (Sprague-Dawley; male/female)
Route of exposure: Inhalation (aerosol)
Results: NOAEC=350 ppm

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

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it has negative effects on the aquatic environment.
12.1. Toxicity

GRANULATED COPPER

Dissolved copper concentrations arising from granulated copper are 13 and 8.6 µg/L over 28 days at a loading rate of 1 mg/L at acidic and neutral pH, respectively. These exceed the chronic ERVs for these pH bands (13.2 or 10.5 and 4 or 6.2 µg/L, respectively). The extrapolated copper concentrations at a notional loading rate of 0.1 mg/L (i.e. 0.49 –
1.3 µg/L) do not exceed the chronic ERVs (Ecotoxicity Reference Value) at any pH. Chronic toxicity may therefore be expressed at a loading rate of >0.1 to ≤1 mg/L, which results in classification as Aquatic Chronic 2 for a substance that is not rapidly transformed. This conclusion only applies to the substance that was tested in the T/Dp (Transformation/Dissolution Protocol) test, since the metal release per unit surface is an intrinsic property of the material. The chronic ERV would have to be less than 1.3 µg/L at acidic pH to affect this conclusion, which seems unlikely even though there is some uncertainty in the data set.

METHANOL

LC50 - for Fish	15400 mg/l/96h
EC50 - for Algae / Aquatic Plants	22000 mg/l/72h

METHYL ACETATE

LC50 - for Fish	250 mg/l/96h
EC50 - for Crustacea	1026,7 mg/l/48h
EC50 - for Algae / Aquatic Plants	120 mg/l/72h
EC10 for Algae / Aquatic Plants	120 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	120 mg/l

GRANULATED COPPER

Chronic NOEC for Fish	0,0578 mg/l Cyprinodon variegatus
Chronic NOEC for Crustacea	0,0088 mg/l Paracetrotus lividus
Chronic NOEC for Algae / Aquatic Plants	0,0057 mg/l Phaeodactylum tricornutumto

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC

LC50 - for Fish	13,4 mg/l/96h

12.2. Persistence and degradability

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
Rapidly degradable in water, 98% in 28 days.
BUTANE
Rapidly degradable in water.
METHYL ACETATE
Easily degradable in water, 70% in 28 days.
METHANOL
Easily degradable in water, 95% in 20 days.

BUTANE

Solubility in water	0,1 - 100 mg/l

Rapidly degradable

PROPANE

Solubility in water	0,1 - 100 mg/l

Rapidly degradable

METHANOL

Solubility in water	1000 - 10000 mg/l

Rapidly degradable

METHYL ACETATE

Solubility in water	243500 mg/l

Rapidly degradable

GRANULATED COPPER

Solubility in water	< 1 mg/l

NOT rapidly degradable

12.3. Bioaccumulative potential

BUTANE	
Partition coefficient: n-octanol/water	1,09
PROPANE	
Partition coefficient: n-octanol/water	1,09
METHANOL	
Partition coefficient: n-octanol/water	-0,77
BCF	0,2
METHYL ACETATE	
Partition coefficient: n-octanol/water	0,18

12.4. Mobility in soil

Information not available

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 ≥ than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. 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.

HYDROCARBONS, C7, N-ALKANES, ISOALKANES, CYCLIC
The product is suitable for combustion in a closed controlled burner for value or disposal of the fuel by supervised incineration at very high temperatures to prevent the formation of undesirable combustion products.

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

yet determined) to which the product is intended by the consumer.
The waste key number must be determined according to the European List of Types of Waste (EU List of Types of Waste Decision 2000/532 / EC) in cooperation with the disposal company / producing company / authority official.

ISOBUTANE
Compliance with local regulations, e.g. incineration via flare system.
No waste key number according to the European List of Types of Waste can be assigned to this product, since this classification is based on the use (not yet determined) to which the product is intended by the consumer.
The waste key number must be determined according to the European List of Types of Waste (EU List of Types of Waste Decision 2000/532 / EC) in cooperation with the disposal company / producing company / authority official.

METHYL ACETATE
Dispose of according to regulations by incineration in a special waste incinerator. Small quantities can be disposed of by incineration in an authorized facility. Comply with local/state/federal regulations.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 1950

14.2. UN proper shipping name

ADR / RID:	AEROSOLS, FLAMMABLE
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:	not marine pollutant
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: --	Limited Quantities: 1	Tunnel restriction

		L	code: (D)
	Special provision: 190, 327, 344, 625		
IMDG:	EMS: F-D, S-U	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 150 Kg	Packaging instructions: 203
	Passengers:	Maximum quantity: 75 Kg	Packaging instructions: 203
	Special provision:	A145, A167, A802	

14.7. Maritime transport in bulk according to IMO instruments

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/EU: P3a-E2

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

Product

Point	40

Contained substance

Point	75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

not applicable

Substances in Candidate List (Art. 59 REACH)

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

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 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. 2	Flammable liquid, category 2
Press. Gas	Pressurised gas
Press. Gas (Liq.)	Liquefied gas
Acute Tox. 3	Acute toxicity, category 3
STOT SE 1	Specific target organ toxicity - single exposure, category 1
Asp. Tox. 1	Aspiration hazard, category 1
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
STOT SE 2	Specific target organ toxicity - single exposure, category 2
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H371	May cause damage to organs.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 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: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 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: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
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3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
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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.
CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
01 / 02 / 03 / 04 / 08 / 09 / 10 / 11 / 12 / 13 / 14 / 15 / 16.