1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product Identifier
Material name : PMA COPPER GREASE 500ML COPGR

1.2 Relevant identified uses of the substance or mixture and uses advised against
Product use : Lubricant

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier: PMA
2, Eskan Court,
Campbell Park,
Milton Keynes
MK9 4AN

Tel: +44 (0) 3333 133349

1.4 Emergency tel no: +44 (0) 3333 133349 (office hours only)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
According to GB Classification, Labelling and Packaging of Substances and Mixtures Regulation (CLP):

Physical and Chemical Hazard	Aerosol Cat. 1; H222; H229
Human health	Skin Irrit.2; H315; STOT SE3; H336
Environment	Aquatic Chronic 2; H411

2.2 Label elements
Labelling according to GB CLP:

Signal word: Danger **Contains:** Hydrocarbons, C6-C7, n-Alkanes, Isoalkanes, Cyclics, <5% n-Hexane; Hydrocarbons, C6, isoalkanes, <5% n-Hexane.

Hazard Pictogram(s):

Hazard Statements:	H222	Extremely flammable aerosol.
	H229	Pressurised container: May burst if heated.
	H315	Causes skin irritation.
	H336	May cause drowsiness or dizziness.
	H411	Toxic to aquatic life with long lasting effects.
Precautionary Statements:	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P211	Do not spray on an open flame or other ignition source.
	P251	Do not pierce or burn, even after use.
	P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C.
	P261	Avoid breathing vapour/spray.
	P271	Use only outdoors or in a well-ventilated area.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/eye/face protection.

Precautionary Statements (continued):

P302+P352	IF ON SKIN: Wash with soap and water.
P501	Dispose of contents/container in accordance with local/national regulations.

2.3 Other hazards In use, may form flammable / explosive vapour-air mixture.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures:

Hazardous components

Chemical Name	CAS No./ EC No./ Reg. No	Classification (CLP)	Content
LIQUEFIED PETROLEUM GAS (contains <0.1% 1,3-butadiene)	68476-85-7 270-704-2 -	Flam.Gas 1; H220 Gas under pressure; H280	30-40%
HYDROCARBONS, C6-C7, n-ALKANES, ISOALKANES, CYCLICS, <5% n-HEXANE	- 921-024-6 01-2119475514-35	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411	10-20%
HYDROCARBONS, C6, ISOALKANES, <5% n-HEXANE	- 931-254-9 01-2119484651-34	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411	5-10%
COPPER	7440-50-8 231-159-6 01-2119480154-42-xxxx	Acute Tox. 4: H302 Aq.Acute 1: H400 Aq.Chron. 2: H411	0.3-5%

Substance classifications are taken from the GB Mandatory Classification and Labelling (MCL) list, or if absent, from supplier's information.

See Section 16 for the full text of the H-statements noted above.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice: Remove casualty from exposure ensuring one's own safety whilst doing so. Take off any contaminated clothing and shoes/boots immediately. Never give anything by mouth to an unconscious person.

Skin contact: Wash with soap and water. Seek medical advice if irritation develops.

Eye contact: Rinse with water for 10 minutes and seek medical advice if irritation persists.

Ingestion: Rinse mouth with water and give water to drink. Do not induce vomiting. Seek medical advice.

Inhalation: Remove to fresh air. Seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed: May cause irritation to skin and eyes with prolonged contact.

4.3 Indication of any immediate medical attention and special treatment needed: See skin and eye contact information above.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Carbon dioxide; dry chemical powder; alcohol or polymer foam.

Unsuitable extinguishing media: High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting: Irritating/toxic fumes may be released at elevated temperatures.

5.3 Advice for fire-fighters:

Special protective equipment: Wear self-contained breathing apparatus. Use personal protective equipment.
Further information: Standard procedure for chemical fires. Use water spray to cool containers.
Do not allow fire run-off to enter drains.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Use personal protective equipment to deal with spillage.

6.2 Environmental precautions

Contain the spillage using sufficient appropriate absorbent material. Do not discharge into drains or rivers, but if contamination to waterways has occurred, inform local authorities.

6.3 Methods and materials for containment and cleaning up

Wipe up liquid spillage with absorbent material such as sand, earth, or vermiculite, and place in a labelled container for disposal in accordance with local/national regulations.

6.4 References to other sections

See sections 8 and 13 for personal protection and disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not breathe spray mist. Avoid contact with skin and eyes. Handle with care.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, well ventilated area, below 50°C. Protect from frost, heat and sunlight. Keep away from food, drink and animal feed.

7.3 Specific end use(s)

No information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Chemical name	8hr TWA	15min STEL	Information	Reference
Liquefied petroleum gas	1750 mg/m^3/1000ppm	2810 mg/m^3/1250 ppm		EH40/2005
Hydrocarbons, C6, isoalkanes, <5% n-hexane	1400 mg/m^3 /362 ppm	-		Manufacturer
Copper and compounds: Copper fume:	1 mg/m^3 0.2 mg/m^3	2 mg/m^3	-Dust and mist (as Cu) -As Cu	EH40/2005

DNEL:

DNEL (workers)	Hydrocarbons, C6-C7, n-Alkanes, Isoalkanes, Cyclics, <5% n-Hexane	Hydrocarbons, C6, isoalkanes, <5% n-hexane	Copper paste	Reference
Chronic systemic effects (dermal)	773 mg/kg	13964 mg/kg bw/day	273 mg/kg	Manufacturer
Chronic systemic effects (inhalation)	2035 mg/m^3	5306 mg/m^3	20 mg/m^3	Manufacturer

DNEL (consumers)	Hydrocarbons, C6-C7, n-Alkanes, Isoalkanes, Cyclics, <5% n-Hexane	Hydrocarbons, C6, isoalkanes, <5% n-hexane	Copper paste	Reference
Chronic systemic effects (dermal)	699 mg/kg	1377 mg/kg bw/day	273 mg/kg	Manufacturer
Chronic systemic effects (inhalation)	608 mg/m^3	1131 mg/m^3	20 mg/m^3	Manufacturer
Chronic systemic effects (oral)	699 mg/kg	1301 mg/kg/day	-	Manufacturer

PNEC:

Environment	Copper paste
Aquatic Compartment	
Fresh water	0.0078 mg/l
Marine water	0.0052 mg/l
Microorganisms in sewage treatment	23 mg/l
Dry Sediment – fresh water	87 mg/kg
Dry Sediment – marine water	676 mg/kg
Terrestrial Compartment	
Dry soil	65.5 mg/kg

The solvent is a hydrocarbon with a complex, unknown or variable composition (UVCB). Conventional methods of deriving PNECs are not appropriate and it is not possible to identify a single representative PNEC for such substances.

8.2 Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.

Personal protective equipment

Respiratory protection: Unlikely to be necessary in normal circumstances; if vapour levels are high, wear a respirator conforming to EN 140 with type A filter or better.

Hand protection: Wear chemically resistant gloves such as butyl rubber approved to standard EN 374; material thickness 0.5mm; break through time ≥ 480 min. Gloves must be replaced after 8 hours of wear. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Check with glove manufacturer for specific advice.

Eye protection: Chemical splash goggles if eye contact is reasonably probable. The selected goggles or glasses must satisfy the European standard EN 166.

Skin and body protection: Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn. The selected protective clothing has to satisfy the standard EN 13034, which describes clothing offering limited 8 hour protection against splashes. Use PPE that is chemically resistant to the product and prevents skin contact.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practices. Do not eat or drink whilst using the product. Wash hands before breaks and at the end of the work day. Wash contaminated clothing before re-use.

Environmental exposure controls: Do not discharge into drains or rivers.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

State and colour	Aerosol emitting copper coloured spray.
Odour	Paraffinic
Odour Threshold	No data available
Flammability	Extremely flammable
Flash point	<0°C
Lower explosion limit	0.6%
Upper explosion limit	9.0%
Explosive properties	Not explosive
Thermal decomposition	No data available
Auto-ignition temperature	No data available
Oxidising properties	Non-oxidising
Solubility in water	Insoluble
Solubility in other solvents	Soluble in most organic solvents.
pH	Not applicable
Melting point/range	No data available
Boiling point/range	No data available
Relative density	No data available
Vapour pressure	No data available
Vapour density	No data available
Partition coefficient: n-octanol/water	No data available
Viscosity (kinematic)	No data available
Evaporation rate	No data available

9.2 Other information No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity	Generally non-reactive.
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	None if stored and used as directed.
10.4 Conditions to avoid	None known.
10.5 Incompatible materials	Strong oxidising agents. Strong acids.
10.6 Hazardous decomposition products	Oxides of carbon.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Based on available data the classification criteria are not met.

Chemical name	Oral (LD50)	Inhalation (LC50)	Dermal (LD50)
Liquefied petroleum gas	Not applicable	>20mg/l (Rat) 4h	Not applicable
Hydrocarbons, C6, isoalkanes, <5% n-hexane	>5840 mg/kg (Rat)	>25.2 mg/l (Rat) 4h	>2920 mg/kg (Rabbit)

Skin corrosion/irritation: Classified as H315: Causes skin irritation.

Serious eye damage/eye irritation: Based on available data the classification criteria are not met.

Respiratory or skin sensitisation: Based on available data the classification criteria are not met.

Repeated dose toxicity: Based on available data the classification criteria are not met.

Carcinogenicity: Based on available data the classification criteria are not met.

Mutagenicity: Based on available data the classification criteria are not met.

Toxicity for reproduction: Based on available data the classification criteria are not met.

Specific target organ toxicity (STOT): Classified as H336: May cause drowsiness or dizziness.

Further information The product as a whole may cause irritation of skin, eyes, nose and upper respiratory tract if exposed to high levels of spray mist.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Chemical name	Species	Test	Value
Hydrocarbons, C6, isoalkanes, <5% n-hexane	Daphnia	EC50 48h	3 mg/l
	Rainbow trout	LL50 96h	>13.4 mg/l
	Algae	EC50 72h	29 mg/l

Physical properties indicate that petroleum gases will rapidly volatilise from the aquatic environment and that acute and chronic effects would not be observed in practice.

12.2 Persistence and degradability Expected to be readily biodegradable. Inorganic ingredients such as Copper are not biodegradable.

12.3 Bioaccumulative potential The hydrocarbon solvent has the potential for bioaccumulation.

12.4 Mobility in soil Insoluble in water.

12.5 Results of PBT and vPvB assessment Contains no PBT or vPvB substances.

12.6 Other adverse effects The aerosol contents are potentially toxic to aquatic life.

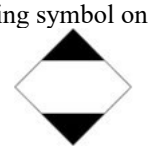
13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal operations: Dispose of in accordance with local and national regulations.
Contact licensed waste disposal company. Most aerosols can be recycled.
Do not pierce or burn or use a cutting torch on the empty aerosol container.

14. TRANSPORT INFORMATION

General Information: The UN number for all aerosols is 1950. Aerosols packed in fibreboard cartons up to 30 kg gross weight, or shrink/stretch wrapped onto trays up to 20 kg gross weight may be transported as Limited Quantities, and should display the following symbol on the pack:



The following information relates to all other aerosols not transported as Limited Quantities:

14.1 UN number	ADR/RID/ADN; IMDG; ICAO	1950
14.2 UN proper shipping name	AEROSOLS	
14.3 Transport hazard class(es)	ADR/RID/ADN Class	2, 5F
	ADR/RID/ADN Class	Class 2, Gases
	ADR Label No.	2.1
	IMDG Class	2
	ICAO Class/Division	2
	ICAO Subsidiary risk	2.1
	Transport labels	
14.4 Packing Group	ADR/RID/ADN; IMDG; ICAO	Not applicable for aerosols
14.5 Environment hazards	Marine Pollutant	Not applicable for aerosols.
14.6 Special precautions for user	EMS	F-D, S-U

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable for aerosols.

15. REGULATORY INFORMATION

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

UK Regulatory References
The Control of Substances Hazardous to Health Regulations 2002 (S.I 2001 No.2677) with amendments.

GB MCL (Mandatory Classification and Labelling).

Statutory Instruments
The Chemicals (Hazard information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

S.I. 2020 No. 1577: The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020**.**

Guidance Notes

Health and Safety Executive Workplace Exposure Limits EH40.

15.2 Chemical Safety Assessment

Chemical Safety Assessments/Reports (CSA/CSR) are not required for mixtures.

16. OTHER INFORMATION

This safety data sheet is prepared in accordance with the requirements of the UK REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation - The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020. (S.I. 2020 No. 1577).

Classification and procedure used to derive the classification for mixtures according to GB CLP:

Physical hazards:	On basis of test data/Expert judgement.
Health hazards:	Calculation method
Environmental hazards:	Calculation method

Full text of H-statements referred to under sections 2 and 3

H220 Extremely flammable gas.
H222 Extremely flammable aerosol.
H225 Highly flammable liquid and vapour.
H229 Pressurised container: May burst if heated.
H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Abbreviations and acronyms

CAS: Chemical Abstract Service (division of the American Chemical Society). {Section 3}.
STOT: Single Target Organ Toxicity (Section 2; 11).
SE: Single exposure (Section 2)
DNEL: Derived no effect level – a level above which humans should not be exposed. (Section 8).
PNEC: Predicted No Effect Concentration (Section 8).
TWA: Time-weighted average. (Section 8).
STEL: Short-term exposure limit. (Section 8).
PBT: Persistent, Bioaccumulative, Toxic. (Section 12).
vPvB: very Persistent and very Bioaccumulative. (Section 12).

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

[final page]