SAFETY DATA SHEET
POSITIVE PHOTORESIST 200ML

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name POSITIVE PHOTORESIST 200ML

Product No. PRP, EPRP200, ZE

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

Identified uses Manufacture of electrical equipment

Uses advised against At this moment in time we do not have information on use restrictions. They will be included in this safety data sheet when available

1.3. Details of the supplier of the safety data sheet

Supplier

ELECTROLUBE. A division of HK
WENTWORTH LTD
ASHBY PARK, COALFIELD WAY,
ASHBY DE LA ZOUCH, LEICESTERSHIRE
LE65 1JR
UNITED KINGDOM
+44 (0)1530 419600
+44 (0)1530 416640
info@hkw.co.uk

1.4. Emergency telephone number

+44 (0)1530 419600 between 8.30am - 5.00pm GMT Mon – Fri

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Flam. Aerosol 1 - H222
Human health	EUH066;Eye Irrit. 2 - H319;STOT SE 3 - H336
Environment	Not classified.

Classification (1999/45/EEC) Xi;R36. F+;R12. R66, R67.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Physical and Chemical Hazards

Aerosol containers can explode when heated, due to excessive pressure build-up. When sprayed on a naked flame or any incandescent material the aerosol vapours can be ignited.

2.2. Label elements

Label In Accordance With (EC) No. 1272/2008

Signal Word Danger

Hazard Statements

H222	Extremely flammable aerosol.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Precautionary Statements

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280	Wear protective gloves, eye and face protection.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313	Get medical advice/attention.

Supplementary Precautionary Statements

P211	Do not spray on an open flame or other ignition source.
P251	Pressurized container: Do not pierce or burn, even after use.
P261	Avoid breathing vapour/spray.
P410+412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

Supplemental label information

EUH066	Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Not Classified as PBT/vPvB by current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

DIMETHYL ETHER — **30-60%**

CAS-No.: 115-10-6 **EC No.: 204-065-8**

Classification (EC 1272/2008)	Classification (67/548/EEC)
Flam. Gas 1 - H220	F+;R12

ACETONE — **30-60%**

CAS-No.: 67-64-1 **EC No.: 200-662-2**

Classification (EC 1272/2008)	Classification (67/548/EEC)
Flam. Liq. 2 - H225	F;R11
EUH066	Xi;R36
Eye Irrit. 2 - H319	R66
STOT SE 3 - H336	R67

1-METHOXY-2-PROPANOL — **5-10%**

CAS-No.: 107-98-2 **EC No.: 203-539-1**

Classification (EC 1272/2008)	Classification (67/548/EEC)
Flam. Liq. 3 - H226	R10
STOT SE 3 - H336	R67

2-METHOXY-1-METHYLETHYL ACETATE — **5-10%**

CAS-No.: 108-65-6 **EC No.: 203-603-9**

Classification (EC 1272/2008)	Classification (67/548/EEC)
Flam. Liq. 3 - H226	R10

BUTYL ACETATE -norm		1-5%
CAS-No.: 123-86-4	EC No.: 204-658-1	

Classification (EC 1272/2008)	Classification (67/548/EEC)
Flam. Liq. 3 - H226	R10
EUH066	R66
STOT SE 3 - H336	R67

SOLVENT NAPHTHA (petroleum, light)		<0.5%
CAS-No.: 64742-95-6	EC No.: 265-199-0	

Classification (EC 1272/2008)	Classification (67/548/EEC)
Not classified.	Xn;R65. Xi;R37. N;R51/53. R10.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition Comments

Ingredients not listed are classified as non-hazardous or at a concentration below reportable levels.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation

Move the exposed person to fresh air at once. Get medical attention.

Ingestion

Not relevant

Skin contact

Wash the skin immediately with soap and water. Get medical attention if any discomfort continues.

Eye contact

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

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

Treat Symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

Use: Powder. Dry chemicals, sand, dolomite etc. Water spray, fog or mist.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Unusual Fire & Explosion Hazards

Aerosol cans may explode in a fire.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Move container from fire area if it can be done without risk.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Do not discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Ventilate well. Absorb in vermiculite, dry sand or earth and place into containers.

6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet. See section 11 for additional information on health hazards. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level.

7.2. Conditions for safe storage, including any incompatibilities

Store at moderate temperatures in dry, well ventilated area.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
1-METHOXY-2-PROPANOL	WEL	100 ppm	375 mg/m3	150 ppm	560 mg/m3	Sk
2-METHOXY-1-METHYLETHYL ACETATE	WEL	50 ppm	274 mg/m3	100 ppm	548 mg/m3	Sk
ACETONE	WEL	500 ppm	1210 mg/m3	1500 ppm	3620 mg/m3	
BUTYL ACETATE -norm	WEL	150 ppm	724 mg/m3	200 ppm	966 mg/m3	
DIMETHYL ETHER	WEL	400 ppm	766 mg/m3	500 ppm	958 mg/m3	

WEL = Workplace Exposure Limit.
Sk = Can be absorbed through skin.

ACETONE (CAS: 67-64-1)

DNEL				
Industry	Dermal	Long Term	Systemic Effects	186 mg/kg/day
Industry	Inhalation.	Long Term	Systemic Effects	1210 mg/m3
Industry	Inhalation.	Short Term	Local Effects	2420 mg/m3
Consumer	Dermal	Long Term	Systemic Effects	62 mg/kg/day
Consumer	Inhalation.	Long Term	Systemic Effects	200 mg/m3
PNEC				
Freshwater	10.6	mg/l		
Marinewater	1.06	mg/l		
Intermittent release	21	mg/l		
STP	100	mg/l		
Sediment (Freshwater)	30.4	mg/kg		
Sediment (Marinewater)	3.04	mg/kg		
Soil	29.5	mg/kg		

BUTYL ACETATE -norm (CAS: 123-86-4)

DNEL				
Industry	Inhalation.	Long Term	Systemic Effects	480 mg/m3
Industry	Inhalation.	Short Term	Systemic Effects	960 mg/m3
Consumer	Inhalation.	Short Term	Systemic Effects	859.7 mg/m3
Consumer	Inhalation.	Long Term	Systemic Effects	102.34 mg/m3
Consumer	Inhalation.	Long Term	Local Effects	102.34 mg/m3
Industry	Inhalation.	Long Term	Local Effects	480 mg/m3
Consumer	Inhalation.	Short Term	Local Effects	859.7 mg/m3
Industry	Inhalation.	Short Term	Local Effects	960 mg/m3
PNEC				
Freshwater	0.18	mg/l		
Marinewater	0.018	mg/l		
Intermittent release	0.36	mg/l		
STP	35.6	mg/l		
Sediment (Freshwater)	0.981	mg/kg		
Sediment (Marinewater)	0.0981	mg/kg		
Soil	0.0903	mg/kg		

8.2. Exposure controls

Protective equipment

Process conditions

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

Engineering measures

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Respiratory equipment

If ventilation is insufficient, suitable respiratory protection must be provided. In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment with combination filter (type A2/P3). EN14387

Hand protection

Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material. Gloves of nitrile rubber, PVA or Viton are recommended. Gloves should conform to EN374

Eye protection

Wear approved chemical safety goggles where eye exposure is reasonably probable. EN166

Other Protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

Hygiene measures

Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke. DO NOT SMOKE IN WORK AREA!

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Aerosol. Liquid
Colour	Green.
Odour	Characteristic.
Solubility	Insoluble in water
Relative density	0.823 @ 20 °C (68 F)
Flash point (°C)	-48 (-54.4F) CC (Closed cup).
Auto Ignition Temperature (°C)	235 (455 F)
Flammability Limit - Lower(%)	0.6
Flammability Limit - Upper(%)	8.3

9.2. Other information

Volatility Description	Volatile

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No specific reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Not determined.

Hazardous Polymerisation

Will not polymerise.

10.4. Conditions to avoid

Avoid heat, flames and other sources of ignition. Avoid contact with acids and alkalis.

10.5. Incompatible materials

10.6. Hazardous decomposition products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Other Health Effects

This substance has no evidence of carcinogenic properties.

Inhalation

May cause irritation to the respiratory system. Vapours may cause headache, fatigue, dizziness and nausea. High concentrations of vapours may irritate respiratory system and lead to headache, fatigue, nausea and vomiting.

Skin contact

Product has a defatting effect on skin. Prolonged contact may cause dryness of the skin. Prolonged or repeated exposure may cause severe irritation.

Eye contact

Irritating to eyes.

Route of entry

Inhalation.

Toxicological information on ingredients.

ETHANOL (CAS: 64-17-5)

Acute toxicity:

Acute Toxicity (Oral LD50)

6200 mg/kg Rat

Acute Toxicity (Dermal LD50)

> 20000 mg/kg Rabbit

Acute Toxicity (Inhalation LC50)

> 8000 mg/l (vapours) Rat 4 hours

1-METHOXY-2-PROPANOL (CAS: 107-98-2)

Toxic Dose 1 - LD 50

5200 mg/kg (oral rat)

Toxic Dose 2 - LD 50

11700 mg/kg (oral-mouse)

ACETONE (CAS: 67-64-1)

Acute toxicity:

Acute Toxicity (Oral LD50)

5800 mg/kg Rat

Acute Toxicity (Dermal LD50)

15800 mg/kg Rabbit

Acute Toxicity (Inhalation LC50)

76 mg/l (vapours) Rat 4 hours

BUTYL ACETATE -norm (CAS: 123-86-4)

Acute toxicity:

Acute Toxicity (Oral LD50)

10760 mg/kg Rat

Acute Toxicity (Dermal LD50)

> 14112 mg/kg Rabbit

Acute Toxicity (Inhalation LC50)

23.4 mg/l (vapours) Rat 4 hours

2-METHOXY-1-METHYLETHYL ACETATE (CAS: 108-65-6)

Toxic Dose 1 - LD 50

3582 mg/kg (oral rat)

SOLVENT NAPHTHA (petroleum, light) (CAS: 64742-95-6)

Toxic Dose 1 - LD 50

>6800 mg/kg (oral rat)

Toxic Dose 2 - LD 50

>3000 mg/kg (oral-rbt)

Toxic Conc. - LC 50

>10.2 mg/l/4h (inh-rat)

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Not regarded as dangerous for the environment.

12.1. Toxicity

Ecological information on ingredients.

ETHANOL (CAS: 64-17-5)

Acute Toxicity - Fish

LC50 48 hours 8140 mg/l

Acute Toxicity - Aquatic Invertebrates

EC50 48 hours > 9268 mg/l Daphnia magna

Acute Toxicity - Aquatic Plants

IC50 72 hours 5000 mg/l

1-METHOXY-2-PROPANOL (CAS: 107-98-2)

LC 50, 96 Hrs, Fish mg/l

20800

EC 50, 48 Hrs, Daphnia, mg/l

23300

ACETONE (CAS: 67-64-1)

Acute Toxicity - Fish

LC50 96 hours 5540 mg/l Onchorhynchus mykiss (Rainbow trout)
LC50 96 hours 11000 mg/l Freshwater fish

Acute Toxicity - Aquatic Invertebrates

EC50 48 hours 12600 mg/l Daphnia magna

Acute Toxicity - Aquatic Plants

NOEC 96 hours 430 mg/l Freshwater algae

BUTYL ACETATE -norm (CAS: 123-86-4)

Acute Toxicity - Fish

LC50 96 hours 18 mg/l Pimephales promelas (Fat-head Minnow)

Acute Toxicity - Aquatic Invertebrates

EC50 48 hours 44 mg/l Daphnia magna

Acute Toxicity - Aquatic Plants

EC50 72 hours 647.7 mg/l Scenedesmus subspicatus
NOEC 200 mg/l Scenedesmus subspicatus

2-METHOXY-1-METHYLETHYL ACETATE (CAS: 108-65-6)

LC 50, 96 Hrs, Fish mg/l

161

EC 50, 48 Hrs, Daphnia, mg/l

408

SOLVENT NAPHTHA (petroleum, light) (CAS: 64742-95-6)

LC 50, 96 Hrs, Fish mg/l

3.77

EC 50, 48 Hrs, Daphnia, mg/l

7.4

12.2. Persistence and degradability

Ecological information on ingredients.

ACETONE (CAS: 67-64-1)

Degradability

The product is easily biodegradable.

BUTYL ACETATE -norm (CAS: 123-86-4)

Degradability

The product is easily biodegradable.

12.3. Bioaccumulative potential

Ecological information on ingredients.

BUTYL ACETATE -norm (CAS: 123-86-4)

Bioaccumulative potential

No data available on bioaccumulation.

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

Ecological information on ingredients.

BUTYL ACETATE -norm (CAS: 123-86-4)

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

SECTION 13: DISPOSAL CONSIDERATIONS

General information

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. Do not puncture or incinerate even when empty.

13.1. Waste treatment methods

Empty containers must not be burned because of explosion hazard. Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

General	This product is packed in accordance with the Limited Quantity Provisions of CDGCPL2, ADR and IMDG. These provisions allow transport of aerosols of less than 1litre packed in cartons of less than 30kg gross to be exempt from control providing that they are labelled in accordance with the requirements of these regulations to show that they are being transported as Limited Quantities. Aerosols not so packed must show the following

14.1. UN number

UN No. (ADR/RID/ADN)	1950
UN No. (IMDG)	1950
UN No. (ICAO)	1950

14.2. UN proper shipping name

Proper Shipping Name	AEROSOLS

14.3. Transport hazard class(es)

ADR/RID/ADN Class	2.1
ADR/RID/ADN Class	Class 2: Gases
ADR Label No.	2.1
IMDG Class	2.1
ICAO Class/Division	2.1

Transport Labels

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

No.

14.6. Special precautions for user

EMS	F-D, S-U
Tunnel Restriction Code	(D)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not relevant

SECTION 15: REGULATORY INFORMATION

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

Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716). Control of Substances Hazardous to Health.

Guidance Notes

Workplace Exposure Limits EH40.

EU Legislation

Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

Authorisations (Title VII Regulation 1907/2006)

No specific authorisations are noted for this product.

Restrictions (Title VIII Regulation 1907/2006)

No specific restrictions of use are noted for this product.

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

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Revision	5
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Risk Phrases In Full

R12	Extremely flammable.
R10	Flammable.
R65	Harmful: may cause lung damage if swallowed.
R11	Highly flammable
R36	Irritating to eyes.
R37	Irritating to respiratory system.
R66	Repeated exposure may cause skin dryness or cracking.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R67	Vapours may cause drowsiness and dizziness.

Hazard Statements In Full

H319	Causes serious eye irritation.
H222	Extremely flammable aerosol.
H220	Extremely flammable gas.
H226	Flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.