

SAFETY DATA SHEET

EMP110/5569 WG LED AS

According to Regulation (EC) No 1907/2006, Annex II, as amended.

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

1.1. Product identifier

Product name EMP110/5569 WG LED AS

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

Identified uses Printing ink.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier Electra Polymers Ltd
 Roughway Mill,
 Roughway Lane
 Tonbridge
 Kent TN11 9SG
 UK
 Tel: +44 1732 811118
 Fax: +44 1732 811119
 sds@electrapolymers.com

1.4. Emergency telephone number

Emergency telephone +44 (0)1732 811 118 (08.30 - 17.00 GMT)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Skin Sens. 1 - H317 Repr. 2 - H361f

Environmental hazards Aquatic Chronic 3 - H412

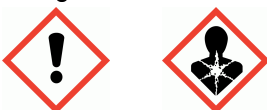
Classification (67/548/EEC or 1999/45/EC) R43. R52/53.

Human health The product contains small amounts of organic solvents. Considered to be a low inhalation hazard at normal workplace temperatures. Contains a substance/a group of substances which may damage fertility. May cause skin sensitisation or allergic reactions in sensitive individuals.

Environmental The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Pictogram



Signal word

Warning

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Hazard statements	H317 May cause an allergic skin reaction. H361f Suspected of damaging fertility. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P201 Obtain special instructions before use. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P308+P313 IF exposed or concerned: Get medical advice/ attention. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse.
Contains	Ethoxylated (3) trimethylolpropane triacrylate, diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide, PHENYL BIS(2,4,6-TRIMETHYLBENZOYL)-PHOSPHINE OXIDE
Supplementary precautionary statements	P202 Do not handle until all safety precautions have been read and understood. P261 Avoid breathing vapour/ spray. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P302+P352 IF ON SKIN: Wash with plenty of water. P321 Specific treatment (see medical advice on this label). P405 Store locked up. P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB. May cause skin sensitisation or allergic reactions in sensitive individuals.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Methoxypropoxypropanol	10-30%
CAS number: 34590-94-8	
Classification	Classification (67/548/EEC or 1999/45/EC)
Not Classified	-
Ethoxylated (3) trimethylolpropane triacrylate	5-10%
CAS number: 28961-43-5 EC number: 500-066-5	
Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319 Skin Sens. 1 - H317	Xi;R36. R43.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	1-5%
CAS number: 75980-60-8 EC number: 278-355-8	
Classification	Classification (67/548/EEC or 1999/45/EC)
Skin Sens. 1B - H317 Repr. 2 - H361f Aquatic Chronic 2 - H411	Repr. Cat. 3;R62. N;R51/53. R43.

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PHENYL BIS(2,4,6-TRIMETHYLBENZOYL)-PHOSPHINE OXIDE		1-5%
CAS number: 162881-26-7	EC number: 423-340-5	
Classification	Classification (67/548/EEC or 1999/45/EC)	
Skin Sens. 1 - H317	R43 R53	
Aquatic Chronic 4 - H413		

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

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues. Treat symptomatically.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Ingestion	Do not induce vomiting. Get medical attention if any discomfort continues.
Skin contact	Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Take off contaminated clothing and wash it before reuse.
Eye contact	Remove any contact lenses and open eyelids wide apart. 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

General information	Treat symptomatically.
Inhalation	No specific symptoms known. May cause respiratory irritation.
Ingestion	No specific symptoms known. May cause irritation.
Skin contact	May cause skin sensitisation or allergic reactions in sensitive individuals.
Eye contact	No specific symptoms known. May cause eye irritation.

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

Notes for the doctor	May cause sensitisation by skin contact.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	None.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting	No specific firefighting precautions known.
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Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No smoking, sparks, flames or other sources of ignition near spillage.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Avoid the spillage or runoff entering drains, sewers or watercourses. Contain spillage with sand, earth or other suitable non-combustible material.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid inhalation of vapours and spray/mists. Wear protective clothing, gloves, eye and face protection.

Advice on general occupational hygiene Good personal hygiene procedures should be implemented. Do not eat, drink or smoke when using this product. Wash after use and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from heat, sparks and open flame. Store in tightly-closed, original container. Protect from freezing and direct sunlight.

Storage class Miscellaneous hazardous material storage.

7.3. Specific end use(s)

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

Occupational exposure limits

Methoxypropoxypropanol

Long-term exposure limit (8-hour TWA): WEL 50 ppm 308 mg/m³

Sk

WEL = Workplace Exposure Limit

Sk = Can be absorbed through the skin.

Methoxypropoxypropanol (CAS: 34590-94-8)

DNEL

Workers - Dermal; Long term systemic effects: 283 mg/kg

Workers - Inhalation; Long term systemic effects: 308 mg/kg

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PNEC	- Fresh water; 19 mg/l
	- Marine water; 1.9 mg/l
	- Intermittent release; 190 mg/l
	- STP; 4168 mg/l
	- Sediment (Freshwater); 70.2 mg/l
	- Sediment (Marinewater); 7.02 mg/l
	- Soil; 2.74 mg/l

Ethoxylated (3) trimethylolpropane triacrylate (CAS: 28961-43-5)

DNEL	Industry - Dermal; Long term systemic effects: 0.8 mg/m ³
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Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (CAS: 75980-60-8)

DNEL	Industry - Inhalation; Long term systemic effects: 3.5 mg/m ³
	Industry - Dermal; Long term systemic effects: 1 mg/m ³

PNEC	- Fresh water; 0.00353 mg/l
	- Marine water; 0.000353 mg/l
	- Intermittent release; 0.0353 mg/l
	- Sediment (Freshwater); 0.29 mg/kg
	- Sediment (Marinewater); 0.029 mg/kg
- Soil; 0.0557 mg/kg	

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

Eye/face protection

Wear eye protection.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Wear protective gloves made of the following material: Butyl rubber. Nitrile rubber. Neoprene. Polyvinyl chloride (PVC). Laminate of polyethylene and ethylene vinyl alcohol (PE/EVOH).

Other skin and body protection

Wear apron or protective clothing in case of contact.

Hygiene measures

Do not eat, drink or smoke when using this product. Use engineering controls to reduce air contamination to permissible exposure level. Wash after use and before eating, smoking and using the toilet. Provide eyewash station. Wash contaminated clothing before reuse.

Respiratory protection

No specific requirements are anticipated under normal conditions of use.

Environmental exposure controls

Residues and empty containers should be taken care of as hazardous waste according to local and national provisions. Prevent spillage entering a watercourse or sewer, contaminating soil or vegetation. If this is not possible notify police and appropriate authorities immediately.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Paste.
Colour	White.

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Odour	Mild.
Odour threshold	Not determined.
pH	Not determined.
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	~ 78°C SCC (Setaflash closed cup). Estimated value.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Other flammability	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	1.45 @ 25°C
Bulk density	Not determined.
Solubility(ies)	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	Kinematic viscosity > 20.5 mm ² /s.
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	No
Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.
Comments	Information given is applicable to the product as supplied.
<u>9.2. Other information</u>	
Other information	None.
Refractive index	Not determined.
Particle size	Not applicable.
Molecular weight	Not applicable.
Volatility	Not determined.
Saturation concentration	Not determined.
Critical temperature	Not determined.
Volatile organic compound	Not determined.

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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Conditions to avoid Keep away from heat, sparks and open flame. Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials

Materials to avoid Strong alkalis. Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances: Acrid smoke or fumes. Oxides of carbon. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data No information available.

Human skin model test No information available.

Extreme pH Based on available data the classification criteria are not met.

Serious eye damage/irritation

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

Respiratory sensitisation

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

Skin sensitisation

Skin sensitisation Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Genotoxicity - in vivo Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met. Does not contain any substances known to be carcinogenic.

Reproductive toxicity

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Reproductive toxicity - fertility Contains a substance/a group of substances which may damage fertility.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

General information The product contains small amounts of organic solvents. Extensive use of the product in areas with inadequate ventilation may result in the accumulation of hazardous vapour concentrations.

Inhalation No specific health hazards known. May cause respiratory system irritation.

Ingestion No specific health hazards known. May cause discomfort if swallowed.

Skin contact May cause sensitisation by skin contact.

Eye contact Causes serious eye irritation.

Acute and chronic health hazards May cause skin sensitisation or allergic reactions in sensitive individuals. Suspected of damaging fertility.

Route of entry Inhalation Skin absorption Skin and/or eye contact Ingestion

Target organs Reproductive System

Medical symptoms Symptoms following overexposure may include the following: Allergic rash.

Medical considerations Allergic rash.

Toxicological information on ingredients.

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,000.0

Species Rat

Notes (dermal LD₅₀)

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Not determined.

Carcinogenicity

Carcinogenicity Not available.

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SECTION 12: Ecological Information

Ecotoxicity The product contains substances which are toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Ecological information on ingredients.

Methoxypropoxypropanol

Ecotoxicity Not regarded as dangerous for the environment.

12.1. Toxicity

Acute toxicity - fish	Not determined.
Acute toxicity - aquatic invertebrates	Not determined.
Acute toxicity - aquatic plants	Not determined.
Acute toxicity - microorganisms	Not determined.
Acute toxicity - terrestrial	Not determined.
Chronic toxicity - fish early life stage	Not determined.
Short term toxicity - embryo and sac fry stages	Not determined.
Chronic toxicity - aquatic invertebrates	Not determined.

Ecological information on ingredients.

Methoxypropoxypropanol

Acute toxicity - fish	LC ₅₀ , 96 hours: >10000 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 1919 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC ₅₀ , 72 hours: >100 mg/l, Algae

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Acute toxicity - fish	LC ₅₀ , 48 hours: 6.53 mg/l, Oryzias latipes (Red killifish)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 3.53 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: > 2.01 mg/l,
Acute toxicity - microorganisms	EC ₅₀ , 3 hours: > 1000 mg/l, Activated sludge

PHENYL BIS(2,4,6-TRIMETHYLBENZOYL)-PHOSPHINE OXIDE

Acute toxicity - fish	LC ₅₀ , 96 hours: >0.09 mg/l, Fish
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Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: >1.175 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability This product is not expected to be readily biodegradable.

Phototransformation Not determined.

Stability (hydrolysis) Not determined.

Biodegradation Not determined.

Biological oxygen demand Not determined.

Chemical oxygen demand Not determined.

Ecological information on ingredients.

Methoxypropoxypropanol

Persistence and degradability The product is expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Not determined.

Partition coefficient Not determined.

12.4. Mobility in soil

Mobility The product contains substances which are water-soluble and may spread in water systems.

Adsorption/desorption coefficient Not determined.

Henry's law constant Not determined.

Surface tension Not determined.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

14.2. UN proper shipping name

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14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

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

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

SECTION 15: Regulatory information

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

National regulations	Control of Substances Hazardous to Health Regulations 2002 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. Health and Safety at Work etc. Act 1974 (as amended). 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.
EU legislation	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) (as amended). 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 (as amended). Dangerous Preparations Directive 1999/45/EC. Dangerous Substances Directive 67/548/EEC.
Health and environmental listings	None of the ingredients are listed.
Authorisations (Title VII Regulation 1907/2006)	No specific authorisations are known for this product.
Restrictions (Title VIII Regulation 1907/2006)	No specific restrictions on use are known for this product.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008	: Calculation method.
Issued by	HS&E Manager.
Revision date	02/02/2017
Revision	5
Supersedes date	16/06/2016

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Risk phrases in full

R36 Irritating to eyes.

R43 May cause sensitisation by skin contact.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R53 May cause long-term adverse effects in the aquatic environment.

R62 Possible risk of impaired fertility.

Hazard statements in full

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H361f Suspected of damaging fertility.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

H413 May cause long lasting harmful effects to aquatic life.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.