



LIGHTLOCK GLUE

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Legal remark

Batteries and LED are Articles as defined under GHS and exempt from GHS classification criteria (Section 1.3.2.1.1 of GHS). Following the same criteria, batteries and LED are also classified as Articles under REACH and are no subject to the requirements for information in the Supply Chain (Safety Data Sheets and Labels). While batteries may release hazardous substances if damaged, this is not an intended release as defined under REACH. According to Regulation (EC) No. 1272/2008 (CLP), batteries and LED are not classified as hazardous.

This Safety Data Sheet provides information about LIGHTLOCK GLUE. In section 14 (Transport information) and section 15 (Regulatory information), LIGHTLOCK GLUE's batteries and LED have also been considered for information only.

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

1.1. Product identifier

LIGHTLOCK GLUE

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

Intended use: Instant Adhesive, Light-curing adhesive

1.3. Details of the supplier of the safety data sheet

Lightlock Glue Ltd.
Edifici Eureka, Campus UAB
08193 Bellaterra

Spain
Telephone number: +34 617 399 096
info@lightlockglue.com

1.4. Emergency telephone number

Lightlock Glue Ltd. + 34 617 399 096

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation CLP (EC) No. 1272/2008

Not a hazardous substance or mixture according to Regulation CLP (EC) No. 1272/2008

2.2. Label elements

Labelling according to Regulation CLP (EC) No. 1272/2008

| | |
|--|--|
| Pictograms | None. |
| Signal Word | None. |
| Hazard statements EUH202 | Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children. |
| Precautionary statements P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. |

For full text of these Hazard and Precautionary statements, see Section 16.

2.3. Other hazards

None.

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable.

3.2. Mixtures

General chemical description: Cyanoacrylate adhesive

Declaration of the ingredients according to Regulation CLP (EC) No. 1272/2008:

| Hazardous component | CAS-No. | EC-No. | Content | Classification |
|------------------------------|------------|-----------|--------------|----------------|
| 2-Methoxyethyl cyanoacrylate | 27816-23-5 | 248-670-5 | >85 – ≤100 % | - |
| Vinyl derivatives copolymer | - | - | 1 – 10 % | - |

| | | | | |
|--------------|----------|-----------|----------------|--|
| Hydroquinone | 123-31-9 | 204-617-8 | 0.01 – < 0.1 % | Carc. 2; H351 Muta. 2; H341 Acute Tox. 4; H302 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M factor: 10 |
|--------------|----------|-----------|----------------|--|

For full text of these Hazard, Precautionary, Risk and Safety statements, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice:

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled:

Move to fresh air, consult doctor if complaint persists.

In case of skin contact:

Do not pull bonded skin apart. It may be gently peeled apart using a blunt object such as a spoon, preferably after soaking in warm soapy water. Cyanoacrylates give off heat on solidification. In rare cases a large drop will generate enough heat to cause a burn. Burns should be treated normally after the adhesive has been removed from the skin. If lips are accidentally stuck together apply warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips apart with direct opposing action.

In case of eye contact:

If the eye is bonded closed, release eyelashes with warm water by covering with wet pad. Cyanoacrylate will bond to eye protein and will cause periods of weeping which will help to debond the adhesive. Keep eye covered until debonding is complete, usually within 1-3 days. Do not force eye open. Medical advice should be sought in case solid particles of cyanoacrylate trapped behind the eyelid cause any abrasive damage.

If swallowed:

Ensure that breathing passages are not obstructed. The product will polymerise immediately in the mouth making it almost impossible to swallow. Saliva will slowly separate the solidified product from the mouth (several hours).

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

| | |
|--------------------|---|
| Eye | irritation, conjunctivitis. |
| Skin | redness, inflammation. |
| Respiratory system | irritation, coughing, breathe shortness, chest tightness. |

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

See section 4.1

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media which must not be used for safety reasons:

None known.

5.2. Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x).

5.3. Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4. Further information

No data available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

6.2. Environmental precautions

Do not let product enter drains.

6.3. Methods and materials for containment and cleaning up

Do not use cloths for mopping up. Flood with water to complete polymerization and scrape off the floor. Cured material can be disposed of as non-hazardous waste.

6.4. Reference to other sections

See advice in section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Ventilation (low level) is recommended when using large volumes.

Use of dispensing equipment is recommended to minimise the risk of skin or eye contact.

Hygiene measures:

- Wash hands before work breaks and after finishing work.
- Do not eat, drink or smoke while working.
- Good industrial hygiene practices should be observed.

7.2. Conditions for safe storage, including any incompatibilities

For optimum shelf life store in original containers under refrigerated conditions at 2 - 8°C (35.6 - 46.4 °F).

7.3. Specific end use(s)

Adhesive.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

Valid for

Great Britain

Occupational Exposure Limits (OEL):

| Substance CAS-No. | Long-term exposure limit (8-hr TWA reference period) | | Short-term exposure limit (15 minute reference period) | | Remarks |
|---|---|-------------------|---|-------------------|---------|
| | ppm | mg/m ³ | ppm | mg/m ³ | |
| 2-Methoxyethyl cyanoacrylate 27816-23-5 | - | - | 0.3 | 1.5 | - |
| Hydroquinone 123-31-9 | - | 0.5 | - | - | - |

Biological Exposure Indices:

None

8.2. Exposure controls

Respiratory protection:

Ensure adequate ventilation.

An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area.

Filter type: A.

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness).

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness).

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Polyethylene or polypropylene gloves are recommended when using large volumes. Do not use PVC, rubber or nylon gloves.

Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.

The use of chemical resistant gloves such as Neoprene or Natural Rubber is recommended.

Eye protection:

Wear protective glasses.

Body protection:

Wear suitable protective clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|-----------------------------------|
| Appearance | Liquid. |
| Odour | Odourless. |
| pH | No data available/Not applicable. |
| Initial boiling point | No data available/Not applicable. |
| Flash point | 80 – 93.3 °C. |
| Decomposition temperature | No data available/Not applicable. |
| Vapour pressure | No data available/Not applicable. |
| Density | 1.19 g/cm ³ . |
| Bulk density | No data available/Not applicable. |
| Viscosity | No data available/Not applicable. |
| Viscosity (kinematic) | No data available/Not applicable. |
| Explosive properties | No data available/Not applicable. |
| Qualitative solubility (solvent: water) | Polymerises in presence of water. |
| Solidification temperature | No data available/Not applicable. |
| Melting point | No data available/Not applicable. |
| Flammability | No data available/Not applicable. |
| Auto-Ignition temperature | No data available/Not applicable. |
| Explosive limits | No data available/Not applicable. |
| Partition coefficient n-octanol/water | No data available/Not applicable. |
| Evaporation rate | No data available/Not applicable. |
| Vapour density | No data available/Not applicable. |
| Oxidizing properties | No data available/Not applicable. |

9.2. Other safety information

No data available/Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Rapid exothermic polymerization will occur in the presence of water, amines, alkalis and alcohols.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section 10.1

10.4. Conditions to avoid

Stable under normal conditions of storage and use.

10.5. Incompatible materials

None if used properly

10.6. Hazardous decomposition products

None known if used as indicated.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General toxicological information:

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC.

Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

STOT-single exposure:

No data available/Not applicable.

Inhalative toxicity:

No data available/Not applicable.

Skin irritation:

No data available/Not applicable.

Eye irritation:

No data available/Not applicable.

Acute oral toxicity:

No data available/Not applicable.

Acute dermal toxicity:

No data available/Not applicable.

Respiratory or skin sensitization:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|---------------------------------|-------------|------------------------------------|------------|--------|
| Hydroquinone 123-31-9 | Sensitising | Guinea pig maximisation test | Guinea pig | - |

Germ cell mutagenicity:

| Hazardous components CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|---------------------------------|----------|---|--|---------|-------------------------------------|
| Hydroquinone 123-31-9 | negative | Bacterial reverse mutation assay (e.g. Ames test) | with and without | - | EU Method B.13/14 (Mutagenicity) |

Repeated dose toxicity:

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Method |
|---------------------------------|---------------------------|-------------------------|--|---------|--|
| Hydroquinone 123-31-9 | NOAEL \geq 250 mg/kg | oral: gavage | 14 days, 5 days/week. 12 doses | rat | OECD Guideline 407 (repeated Dose 28-Day Oral Toxicity in Rodents) |
| Hydroquinone 123-31-9 | LOAEL \leq 500 mg/kg | oral: gavage | 14 days, 5 days/week. 12 doses | rat | OECD Guideline 407 (repeated Dose 28-Day Oral Toxicity in Rodents) |

SECTION 12: Ecological information

12.1. Toxicity**General ecological information:**

Biological and Chemical Oxygen Demands (BOD and COD) are insignificant.

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Ecotoxicity:

Do not empty into drains / surface water / ground water.

| Hazardous components CAS-No. | Value type | Value | Acute Toxicity Study | Exposure time | Species | Method |
|------------------------------|------------|-------------|----------------------|---------------|--|--|
| Hydroquinone 123-31-9 | LC50 | 0.638 mg/l | Fish | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Hydroquinone 123-31-9 | EC50 | 0.134 mg/l | Daphnia | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Hydroquinone 123-31-9 | EC50 | 0.335 mg/l | Algae | 72 h | Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Hydroquinone 123-31-9 | NOEC | 0.0057 mg/l | chronic Daphnia | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |

12.2. Persistence and degradability

| Hazardous components CAS-No. | Result | Route of application | Degradability | Method |
|------------------------------|-----------------------|----------------------|---------------|---|
| Hydroquinone 123-31-9 | Readily biodegradable | Aerobic | 75 – 81 % | EU Method C.4-E (Determination of the "Read Biodegradability: Closed Bottle Test) |

12.3. Bioaccumulative potential

No data available/Not applicable.

12.4. Mobility in soil

Cured adhesives are immobile.

12.5. Results of PBT and vPvB assessment

No data available/Not applicable

12.6. Other adverse effects

No data available/Not applicable

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

Dispose of as water insoluble non-toxic solid chemical in authorised landfill or incinerate under controlled conditions. Dispose of in accordance with local and national regulations. □

Contribution of this product to waste is very insignificant in comparison to article in which it is used

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Disposal must be made according to official regulations.

Waste code:

08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances.

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information

All batteries in all forms of transportation (ground, air or sea) must be packed in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require batteries to be packed in a way that prevents short circuits and to be contained in strong outer packaging to prevent spillage of contents. All original packaging for LIGHTLOCK GLUE are compliant with these regulatory concerns.

Lithium metal batteries contained in LIGHTLOCK GLUE are exempt from the classification as dangerous goods as they meet the requirements of the special provisions listed below. Essentially, this means the batteries are properly packaged and labelled, they contain less than 1 g of lithium and pass the tests defined in UN's Manual of Tests and Criteria, part III, sub-section 38.3.

| Regulatory Body | Special provisions |
|-----------------|---|
| UN | UN3091 |
| IATA, ICAO | Packing instruction P970 Section II, A48, A99, A154, A164, A181, A185 |
| IMDG | 188, 230, 957 |
| ADR | 188, 230, 376, 377, 636 |
| RID | 188, 230, 360, 376, 377, 636 |
| ADN | 188, 230, 360, 376, 377, 636 |

Although lithium metal batteries contained in LIGHTLOCK GLUE are classified as non-dangerous goods, there is a limitation of 5 kg net quantity of batteries per outer package when shipped by air. This means that a maximum of 1,562 units of LIGHTLOCK GLUE can be shipped per package by air. For additional information please refer to the phone number in Sections 1.3 and 1.4 of this document.

14.1 UN number

ADR: -
RID: -
ADN: -
IMDG: -
IATA: UN3334

Please note that Cyanoacrylates (UN3334) are restricted for air transportation in packages containing more than 500g. The 'package' is the individual bottle, tube or drum, not a carton containing many bottles.

14.2. UN proper shipping name

ADR/RID: -
ADN: -
IMDG: -
IATA: Aviation regulated liquid, n.o.s. (Cyanoacrylate ester)

Please note that Cyanoacrylates (UN3334) are restricted for air transportation in packages containing more than 500g. The 'package' is the individual bottle, tube or drum, not a carton containing many bottles.

14.3. Transport hazard class(es)

ADR/RID: -
ADN: -
IMDG: -
IATA: 9

Please note that Cyanoacrylates (UN3334) are restricted for air transportation in packages containing more than 500g. The 'package' is the individual bottle, tube or drum, not a carton containing many bottles.

14.4. Packing group

ADR/RID: -
ADN: -
IMDG: -
IATA: III

Please note that Cyanoacrylates (UN3334) are restricted for air transportation in packages containing more than 500g. The 'package' is the individual bottle, tube or drum, not a carton containing many bottles.

14.5. Environmental hazards

ADR/RID: -
ADNR: -
IMDG Marine pollutant: -
IATA: -

14.6. Special precautions for user

No data available/Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available/Not applicable

SECTION 15: Regulatory information

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

VOC Content (1999/13/EEC): < 3 %

Lithium metal batteries contained in LIGHTLOCK GLUE comply with European Directive 2006/66/EC and its Article 4 amendment of Directive 2013/56/EU. Therefore the batteries are marked with the crossed-out wheeled bin and the same symbol is printed on the packaging.

LED device contained in LIGHTLOCK GLUE – including light, batteries and every component in the plastic case – complies with RoHS Directive 2011/65/EU and its Annex II amendment of Directive (EU) 2015/863. Therefore the device must bear the CE mark and the same symbol is printed on the packaging.

15.2. Chemical Safety Assessment

For this product a chemical safety assessment has not been carried out

SECTION 16: Other information

The labelling of the product is indicated in Sections 2 and 3. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

| | |
|--------------------|--|
| Carc. | Carcinogenicity |
| Muta. | Germ cell mutagenicity |
| Acute Tox. | Acute toxicity |
| Eye Dam. | Serious eye damage |
| Skin Sens. | Skin sensitization |
| Aquatic Acute | Hazardous to the aquatic environment |
| Aquatic Chronic | Hazardous to the aquatic environment with chronic effects. |
| H302 | Harmful if swallowed |
| H317 | May cause an allergic skin reaction |
| H318 | Causes serious eye damage |
| H341 | Suspected of causing genetic defects |
| H351 | Suspected of causing cancer |
| H410 | Very toxic to aquatic life with long lasting effects. |
| EUH202 | Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. |

Further information

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

This safety data sheet was prepared in accordance with Regulation (EC) No. 1272/2008.