

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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Chameleon Reversible Photochromic UV Flexo

Revision 1

Revision date 2015-07-10

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

1.1. Product identifier

| | |
|--------------|--|
| Product name | Chameleon Reversible Photochromic UV Flexo |
|--------------|--|

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

| | |
|-------------|--|
| Product Use | [SU22] Professional uses: Public domain (administration, education, entertainment, services, craftsmen); [SU7] Printing and reproduction of recorded media; [PC18] Ink and toners; |
| Description | Ink which changes colour, reversibly, on exposure to UV light. |

1.3. Details of the supplier of the safety data sheet

| | |
|-----------|---|
| Company | LCR Hallcrest Ltd |
| Address | Riverside Buildings Dock Road Connah's Quay Flintshire CH5 4DS United Kingdom |
| Web | www.lcrhallcrest.com |
| Telephone | +44 (0) 1244 817107 |
| Fax | +44 (0)1244 818502 |
| Email | sales@lcrhallcrest.com |

Intended use


| | |
|--------------|---|
| Intended use | Manufacture UV light triggered colour changing printed items. |
|--------------|---|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

| | |
|--------------------------------------|--|
| 2.1.1. Classification - 1999/45/EC | Xi; R38-41-43 Symbols: Xi: Irritant. |
| Main hazards | Irritating to skin. Risk of serious damage to eyes. May cause sensitisation by skin contact. |
| 2.1.2. Classification - EC 1272/2008 | Skin Irrit. 2: H315; Skin Sens. 1: H317; Eye Dam. 1: H318; |

2.2. Label elements

| | |
|-------------------------------------|---|
| Hazard pictograms |  |
| Signal Word | Danger |
| Hazard Statement | Skin Irrit. 2: H315 - Causes skin irritation. Skin Sens. 1: H317 - May cause an allergic skin reaction. Eye Dam. 1: H318 - Causes serious eye damage. |
| Precautionary Statement: Prevention | P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash thoroughly after handling. P272 - Contaminated work clothing should not be allowed out of the workplace. |

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2.2. Label elements

| | |
|--|---|
| Precautionary Statement: Response | P280 - Wear protective gloves/protective clothing/eye protection/face protection. |
| | P302+P352 - IF ON SKIN: Wash with plenty of water/ . P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 -Immediately call a POISON CENTER/doctor/ . P321 - Specific treatment (see on this label). P332+P313 - If skin irritation occurs: Get medical advice/attention. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. |
| Precautionary Statement: Disposal | P501 - Dispose of contents/container to |

SECTION 3: Composition/information on ingredients

3.2. Mixtures

67/548/EEC / 1999/45/EC

| Chemical Name | Index No. | CAS No. | EC No. | REACH Registration Number | Conc. (%w/w) | Classification | M-factor. |
|-------------------------------|--------------|------------|-----------|---------------------------|--------------|---|-----------|
| Dipropylene glycol diacrylate | | 57472-68-1 | | | 20 - 30% | Xi; R38-41-43 | |
| Acrylate | | | | | 1 - 10% | Xi; R36/37/38 | |
| 4,4'-Isopropylidenediphenol | 604-030-00-0 | 80-05-7 | 201-245-8 | | 1 - 10% | Repr. Cat. 3; R62 Xi; R37-41 R43 R52 | |
| HDMAP | | 7473-98-5 | 231-272-0 | | 1 - 10% | Xn; R22 | |
| Hexane-1,6-diol diacrylate | 607-109-00-8 | 13048-33-4 | 235-921-9 | | 1 - 10% | Xi; R36/38 R43 | |

EC 1272/2008

| Chemical Name | Index No. | CAS No. | EC No. | REACH Registration Number | Conc. (%w/w) | Classification | M-factor. |
|-------------------------------|--------------|------------|-----------|---------------------------|--------------|--|-----------|
| Dipropylene glycol diacrylate | | 57472-68-1 | | | 20 - 30% | Skin Irrit. 2: H315; Skin Sens. 1: H317; Eye Dam. 1: H318; | |
| Acrylate | | | | | 1 - 10% | Skin Irrit. 2: H315; Eye Irrit. 2: H319; STOT SE 3: H335; | |
| 4,4'-Isopropylidenediphenol | 604-030-00-0 | 80-05-7 | 201-245-8 | | 1 - 10% | Repr. 2: H361f; STOT SE 3: H335; Eye Dam. 1: H318; Skin Sens. 1: H317; | |
| HDMAP | | 7473-98-5 | 231-272-0 | | 1 - 10% | Acute Tox. 4: H302; | |
| Hexane-1,6-diol diacrylate | 607-109-00-8 | 13048-33-4 | 235-921-9 | | 1 - 10% | Eye Irrit. 2: H319; Skin Irrit. 2: H315; Skin Sens. 1: H317; | |
| TPO | | 75980-60-8 | 278-355-8 | | 0.5 - 1% | Repr. 2: H361f; Aquatic Chronic 3: H412; | |

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------|---|
| Inhalation | Move the exposed person to fresh air. Seek medical attention. |
| Eye contact | Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist. |
| Skin contact | Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist. |
| Ingestion | Seek medical attention if irritation or symptoms persist. DO NOT INDUCE VOMITING. |

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

| | |
|---------------------|---|
| Inhalation | May cause irritation to respiratory system. Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system. |
| Eye contact | Irritating to eyes. |
| Skin contact | Irritating to skin. May cause sensitisation by skin contact. |
| Ingestion | Ingestion may cause nausea and vomiting. |

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

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

| | |
|--------------|--|
| Inhalation | Seek medical attention if irritation or symptoms persist. |
| Eye contact | Seek medical attention if irritation or symptoms persist. |
| Skin contact | May cause sensitisation by skin contact. Seek medical attention if irritation or symptoms persist. |
| Ingestion | Seek medical attention if irritation or symptoms persist. |

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--|----------------|
| | Carbon oxides. |
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5.2. Special hazards arising from the substance or mixture

| | |
|--|---|
| | Burning produces irritating, toxic and obnoxious fumes. |
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5.3. Advice for firefighters

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| | Wear suitable respiratory equipment when necessary. |
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
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| | Ensure adequate ventilation of the working area. Wear suitable protective equipment. |
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6.2. Environmental precautions

| | |
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| | Do not allow product to enter drains. Prevent further spillage if safe. |
|--|---|

6.3. Methods and material for containment and cleaning up

| | |
|--|---|
| | Absorb with inert, absorbent material. Sweep up. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water. |
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6.4. Reference to other sections

| | |
|--|------------------------------|
| | For disposal see section 13. |
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
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| | Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing. |
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7.2. Conditions for safe storage, including any incompatibilities

| | |
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| | Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labelled containers. |
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7.3. Specific end use(s)

| | |
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| | Apply a barrier cream before handling the product. Chemical resistant gloves. |
|--|---|

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Exposure Limit Values

| | | |
|-----------------------------|--|--|
| 4,4'-Isopropylidenediphenol | WEL 8-hr limit ppm: - | WEL 8-hr limit mg/m3: 10 |
| | WEL 15 min limit ppm: - | WEL 15 min limit mg/m3: - |
| | WEL 8-hr limit mg/m3 total inhalable dust: - | WEL 15 min limit mg/m3 total inhalable dust: - |
| | WEL 8-hr limit mg/m3 total respirable dust: - | WEL 15 min limit mg/m3 total respirable dust: - |

8.2. Exposure controls

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8.2. Exposure controls

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|---------------------------------------|---------------------------------------|
| 8.2.2. Individual protection measures | Wear chemical protective clothing. |
| Eye / face protection | Approved safety goggles. |
| Skin protection - Handprotection | Chemical resistant gloves (PVC). |
| Respiratory protection | Wear: Suitable respiratory equipment. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|------------|------------------------------------|
| Appearance | Liquid |
| Colour | Various colours according to type. |
| Odour | Characteristic |
| Solubility | Immiscible in water |

SECTION 10: Stability and reactivity

10.1. Reactivity

| | |
|--|---------|
| | Stable. |
|--|---------|

10.2. Chemical stability

| | |
|--|---------------------------------|
| | Stable under normal conditions. |
|--|---------------------------------|

10.3. Possibility of hazardous reactions

| | |
|--|------------------------|
| | No Significant Hazard. |
|--|------------------------|

10.4. Conditions to avoid

| | |
|--|------------------------|
| | No Significant Hazard. |
|--|------------------------|

10.5. Incompatible materials

| | |
|--|--------------------------|
| | Strong oxidising agents. |
|--|--------------------------|

10.6. Hazardous decomposition products

| | |
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| | Burning produces obnoxious and irritating fumes. |
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

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| Acute toxicity | May cause sensitisation by skin contact. |
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11.1.4. Toxicological Information

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|-------------------------------|--|--------------------------------|
| 4,4'-Isopropylidenediphenol | Oral Rat LD50: 4240 mg/kg Dermal Rabbit LD50: 3 mL/kg | Oral Mouse LD50: 2500 mg/kg |
| Dipropylene glycol diacrylate | Oral Rat LD50: 4600 mg/kg | Dermal Rabbit LD50: >2 gm/kg |
| HDMAP | Dermal Rat LD50: 6929 mg/kg | Oral Rat LD50: 1694 mg/kg |
| Hexane-1,6-diol diacrylate | Oral Rat LD50: 5 gm/kg | Dermal Rabbit LD50: 3600 uL/kg |

SECTION 12: Ecological information

12.1. Toxicity

| | | |
|-----------------------------|--|-----------------------------|
| 4,4'-Isopropylidenediphenol | Green algae EC50/96h: 3.1 Fathead minnows LC50/96h: 4.6 | Daphnia LC50/48h: 10.2 |
| HDMAP | Daphnia EC50/48h: 119.0000 mg/l | Algae IC50/72h: 1.9500 mg/l |

Further information

| | |
|--|---|
| | No constituent has yet been assigned a risk phrase pertaining to ecological effects (R50 to R59) or the symbol N. |
|--|---|

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SECTION 13: Disposal considerations**General information**

| | |
|--|---|
| | Dispose of in compliance with all local and national regulations. |
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SECTION 14: Transport information**14.1. UN number**

| | |
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| | The product is not classified as dangerous for carriage. |
|--|--|

14.2. UN proper shipping name

| | |
|--|--|
| | The product is not classified as dangerous for carriage. |
|--|--|

14.3. Transport hazard class(es)

| | |
|--|--|
| | The product is not classified as dangerous for carriage. |
|--|--|

14.4. Packing group

| | |
|--|--|
| | The product is not classified as dangerous for carriage. |
|--|--|

14.5. Environmental hazards

| | |
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| | The product is not classified as dangerous for carriage. |
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14.6. Special precautions for user

| | |
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| | The product is not classified as dangerous for carriage. |
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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

| | |
|--|--|
| | The product is not classified as dangerous for carriage. |
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Further information

| | |
|--|--|
| | The product is not classified as dangerous for carriage. |
|--|--|

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Regulations**

| | |
|--|--|
| | This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on 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. |
|--|--|

SECTION 16: Other information**Other information****Revision**

| | |
|--|---|
| | This document differs from the previous version in the following areas:. 1 - Description. 1 - Intended use. 1 - Product Use. 2 - 2.1. Classification of the substance or mixture. 2 - 2.1.2. Classification - EC 1272/2008. 2 - Hazard pictograms. 2 - Signal Word. 2 - Precautionary Statement: Prevention. 2 - Precautionary Statement: Response. 2 - Precautionary Statement: Disposal. 4 - Skin contact. 12 - 12.1. Toxicity. 15 - Risk phrases. |
|--|---|

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Other information

| | |
|---|---|
| Text of risk phrases in Section 3 | <p>R22 - Harmful if swallowed. R36/37/38 - Irritating to eyes, respiratory system and skin. R36/38 - Irritating to eyes and skin. R37 - Irritating to respiratory system. R38 - Irritating to skin. R41 - Risk of serious damage to eyes. R43 - May cause sensitisation by skin contact. R52 - Harmful to aquatic organisms. R62 - Possible risk of impaired fertility.</p> |
| Text of Hazard Statements in Section 3 | <p>Skin Irrit. 2: H315 - Causes skin irritation. Skin Sens. 1: H317 - May cause an allergic skin reaction. Eye Dam. 1: H318 - Causes serious eye damage. Eye Irrit. 2: H319 - Causes serious eye irritation. STOT SE 3: H335 - May cause respiratory irritation. Repr. 2: H361f - Suspected of damaging fertility. Acute Tox. 4: H302 - Harmful if swallowed. Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.</p> |

Further information

| | |
|-----------------------|---|
| | <p>The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. 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 other process.</p> |
| HMIS LABELLING | <p>All components are TSCA compliant. HEALTH 1, FLAMMABILITY 0, PERSONAL PROTECTION : C. PHYSICAL HAZARD 0.</p> |