***According to***
***1907/2006/EC, Article 31***

Printing date 2023/9/5 Version: 1 Revision: M20230905

## 1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: **Colibri 5414 ( K )**

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 Details of the supplier of the safety data sheet

Company: Colibri Digital Limited

Company code:2875806 registered in Hong Kong

Company address: Suite No. A, 11/F., Ritz Plaza,, 122 Austin Road, Tsimshatsui, Kowloon, Hong Kong

香港九龍尖沙咀柯士甸道122號麗斯中心11樓A室

Phone: +852 8120 4409, E-mail: hk@colibridigital.com

## 2. Hazards identification

2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319 Skin sensitisation (Category 1), H317

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Irritating to eyes and skin.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation. Hazard pictograms



Signal word: Warning

Hazard statements:

| | |
|---|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. Precautionary statements: |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |

P280 Wear eye protection/ face protection.

P302 + P352 I F ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

## 3. Composition/information on ingredients

Chemical characterization: Mixture

| Ingredients | CAS-No. | EINECS | Percent (%) | Classification Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|---|
| Synthetic resin | 68227-93-0 | – | 10–15 | – |
| Carbon Black | 333-86-4 | 215-609-9 | 3–5 | – |
| Hexamethylene diacrylate | 13048-33-4 | 235-921-9 | 15–20 | Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1; H315, H319,H317 |
| Tetrahydrofurfuryl Acrylate | 2399-48-6 | 219-268-7 | 15–25 | Skin Irrit. 2; Eye Irrit. 2; H315, H319 |
| 2-Hydroxy-3-phenoxypropyl acrylate | 16969-10-1 | 241-045-8 | 15–20 | Flam. Liq. 4; SkinCorr./Irrit. 2; Eye Dam./Irrit. 2A; STOT SE 3; H227, H315, H319, H335 |
| 2-Isopropylthioxanthone | 5495-84-1 | 226-827-9 | 5–15 | – |
| 4-Benzoyl 4'-Methyldiphenyl Sulfide | 83846-85-9 | | 1–5 | Skin Irrit. 2; Eye Irrit. 2; H315, H319 |

## 4. First aid measures

4.1 Description of first aid measures

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Skin contact: Remove contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15-20 minutes. Consult a physician.

Ingestion: Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed Potential acute health effects

Eye contact:
Causes severe eye injury which may persist for several days.

Inhalation: Vapors or mist, especially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, may irritate nose, throat/respiratory system.

Skin contact: May cause skin irritation, injury, dermatitis, allergy and/or sensitization. Ingestion: May cause injury of mouth, throat, and stomach.

Over-exposure signs/symptoms

Eye contact: No specific data.

Inhalation: No specific data. Skin contact: No specific data. Ingestion: No specific data.

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

## 5. Fire-fighting measures

5.1 Extinguishing media Suitable extinguishing media

Alcohol-resistant foam, dry chemical, carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Carbon monoxides, carbon dioxide, oxides of nitrogen, toxic gases/vapors.

5.3 Advice for firefighters

Wear special chemical protective clothing and use breathing apparatus with independent air supply. Approach fire from upwind and avoid hazardous vapors and toxic decomposition products. Decontaminate or discard any clothing that may contain chemical residues.

5.4 Further information

Applying direct water may be dangerous because fire may expand to surroundings. Use water spray to cool unopened containers

## 6. Accidental release measures

Absorb spill with sand or earth then place in a chemical waste container.

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

## 7. Handling and storage

7.1 Handling

Keep out of reach of children and do not drink. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Make sure cartridge is dry before insertion into printer housing.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry and dark place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses Inkjet printing

## 8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

| | |
|---|---|
| Eye/face protection | Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
| Skin protection | Handle with gloves and wear appropriate protective impervious clothing. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. |
| Wash and dry hands. | The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. |
| Body Protection | Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| Respiratory protection | Handle with NIOSH approved air purifying respiratory protection equipment in case ventilation is not adequate. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US). |
| Hygiene measures: | Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area. |
| Environmental controls: | Do not release to the environment. |

## 9. Physical and chemical properties

| | | |
|---|---|---|
| 1 | Color | Black Liquid |
| 2 | Odor | Characteristic odor |
| 3 | Boiling point/boiling range of ink | No data available |
| 4 | Melting Point/Melting Range | No data available |
| 5 | Flash point of ink | >90 °C |
| 6 | Auto-Ignition Temperature | No data available |
| 7 | Flammability(solid, gas) | Not applicable |
| 8 | Explosive Properties | No data available |

| | | |
|---|---|---|
| 9 | Vapour Pressure | No data available |
| 10 | Specific Gravity | Approx 1.04 |
| 11 | Solubility | No data available |
| 12 | Water solubility | Insoluble |
| 13 | Viscosity | 4.0-10.0 cps |
| 14 | pH | No data available |
| 15 | Oxidizing properties | No data available |

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications.

## 10. Stability and reactivity

| | |
|---|---|
| 10.1 Reactivity | High temperatures(>100℃) and UV light may cause rapid polymerization. |
| 10.2 Chemical stability | Polymerize under heat and/or light. |
| 10.3 Possibility of hazardous reactions | Not expected |
| 10.4 Conditions to avoid | Elevated temperatures/heat, UV light, when not in use. |
| 10.5 Incompatible materials | Avoid contact with acids, amines, free radical initiators, oxidizing agents. |
| 10.6 Hazardous decomposition products | Carbon monoxide, carbon dioxide, oxides of nitrogen, toxic gases/vapors. |

## 11. Toxicological information

11.1 Information on toxicological effects

Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

**Acute Health Hazards**: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

**Chronic Health Hazards**: No information available

**Mugtagenicity**: No information available

**Carcinogenicity**: No information available

**Acute Toxicity Data**:

Hexamethylene diacrylate LD50 Oral - Rat - 5.000 mg/kg

LC0 Inhalation - Rat - male and female - 7 h - 0,41 mg/l

LD50 Dermal - Rabbit - 3.650 mg/kg(OECD Test Guideline 402) Tetrahydrofurfuryl Acrylate

No data available2-Hydroxy-3-phenoxypropyl acrylate No data available
2-Isopropylthioxanthone No data available

2-Isopropylthioxanthone No data available

4-Benzoyl 4'-Methyldiphenyl Sulfide No data available

The information shown in SECION 3, Hazards identification, is based on toxicity profiles of similar materials or on the components present in this material.

## 12. Ecological information

12.1 Toxicity

Hexamethylene diacrylate

Toxicity to fish static test LC50 - Leuciscus idus (Golden orfe) - 4,6 - 10 mg/l - 96 h(DIN 38412)Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 2,6 mg/l - 48 h

Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - 1,5mg/l - 72 h Toxicity to bacteria

Respiration inhibition EC50 - Sludge Treatment - ca. 270 mg/l - 30min

(OECD Test Guideline 209)

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

## 13. Disposal considerations

13.1 Waste treatment methods Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging Dispose of as unused product.

## 14. Transport information

14.1 UN number

ADR/RID: — IMDG: — IATA: —

14.2 UN proper shipping name

ADR/RID: Not dangerous goodsIMDG: Not dangerous goods IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: — IMDG: — IATA: —

14.4 Packaging group

ADR/RID: — IMDG: — IATA: —

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

## 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

REACH Status: In compliance.

Preregistration status: All components are listed or exempted. Annex XIV - List of substances subject to authorization Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety Assessment No data available

15.3 Other information

**US Regulation**:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated. TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated. California Proposition 65: Not regulated.

## 16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained. Identification of the substance/preparation and of the company/undertaking

***According to***
***1907/2006/EC, Article 31***

Printing date 2023/9/5 Version: 1 Revision: M20230905

## 1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: **Colibri 5414 ( M )**

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 Details of the supplier of the safety data sheet

Company: Colibri Digital Limited

Company code:2875806 registered in Hong Kong

Company address: Suite No. A, 11/F., Ritz Plaza,, 122 Austin Road, Tsimshatsui, Kowloon, Hong Kong

香港九龍尖沙咀柯士甸道122號麗斯中心11樓A室

Phone: +852 8120 4409, E-mail: hk@colibridigital.com

## 2. Hazards identification

2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319 Skin sensitisation (Category 1), H317

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Irritating to eyes and skin.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation. Hazard pictograms



Signal word: Warning

Hazard statements:

| | |
|---|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. Precautionary statements: |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |

P280 Wear eye protection/ face protection.

P302 + P352 I F ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

## 3. Composition/information on ingredients

Chemical characterization: Mixture

| Ingredients | CAS-No. | EINECS | Percent (%) | Classification Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|---|
| Synthetic resin | 68227-93-0 | – | 10–15 | – |
| Magenta pigment | 980-26-7 | 205-685-1 | 3–5 | – |
| Hexamethylene diacrylate | 13048-33-4 | 235-921-9 | 15–20 | Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1; H315, H319,H317 |
| Tetrahydrofurfuryl Acrylate | 2399-48-6 | 219-268-7 | 15–25 | Skin Irrit. 2; Eye Irrit. 2; H315, H319 |
| 2-Hydroxy-3-phenoxypropyl acrylate | 16969-10-1 | 241-045-8 | 15–20 | Flam. Liq. 4; SkinCorr./Irrit. 2; Eye Dam./Irrit. 2A; STOT SE 3; H227, H315, H319, H335 |
| 2-Isopropylthioxanthone | 5495-84-1 | 226-827-9 | 5–15 | – |
| 4-Benzoyl 4'-Methyldiphenyl Sulfide | 83846-85-9 | | 1–5 | Skin Irrit. 2; Eye Irrit. 2; H315, H319 |

## 4. First aid measures

4.1 Description of first aid measures

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Skin contact: Remove contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15-20 minutes. Consult a physician.

Ingestion: Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed Potential acute health effects

Eye contact:
Causes severe eye injury which may persist for several days.

Inhalation: Vapors or mist, especially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, may irritate nose, throat/respiratory system.

Skin contact: May cause skin irritation, injury, dermatitis, allergy and/or sensitization. Ingestion: May cause injury of mouth, throat, and stomach.

Over-exposure signs/symptoms

Eye contact: No specific data.

Inhalation: No specific data. Skin contact: No specific data. Ingestion: No specific data.

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

## 5. Fire-fighting measures

5.1 Extinguishing media Suitable extinguishing media

Alcohol-resistant foam, dry chemical, carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Carbon monoxides, carbon dioxide, oxides of nitrogen, toxic gases/vapors.

5.3 Advice for firefighters

Wear special chemical protective clothing and use breathing apparatus with independent air supply. Approach fire from upwind and avoid hazardous vapors and toxic decomposition products. Decontaminate or discard any clothing that may contain chemical residues.

5.4 Further information

Applying direct water may be dangerous because fire may expand to surroundings. Use water spray to cool unopened containers

## 6. Accidental release measures

Absorb spill with sand or earth then place in a chemical waste container.

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

## 7. Handling and storage

7.1 Handling

Keep out of reach of children and do not drink. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Make sure cartridge is dry before insertion into printer housing.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry and dark place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses Inkjet printing

## 8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

| | |
|---|---|
| Eye/face protection | Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
| Skin protection | Handle with gloves and wear appropriate protective impervious clothing. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. |
| Wash and dry hands. | The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. |
| Body Protection | Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| Respiratory protection | Handle with NIOSH approved air purifying respiratory protection equipment in case ventilation is not adequate. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US). |
| Hygiene measures: | Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area. |
| Environmental controls: | Do not release to the environment. |

## 9. Physical and chemical properties

| | | |
|---|---|---|
| 1 | Color | Magenta Liquid |
| 2 | Odor | Characteristic odor |
| 3 | Boiling point/boiling range of ink | No data available |
| 4 | Melting Point/Melting Range | No data available |
| 5 | Flash point of ink | >90 °C |
| 6 | Auto-Ignition Temperature | No data available |
| 7 | Flammability(solid, gas) | Not applicable |
| 8 | Explosive Properties | No data available |

| | | |
|---|---|---|
| 9 | Vapour Pressure | No data available |
| 10 | Specific Gravity | Approx 1.04 |
| 11 | Solubility | No data available |
| 12 | Water solubility | Insoluble |
| 13 | Viscosity | 4.0-10.0 cps |
| 14 | pH | No data available |
| 15 | Oxidizing properties | No data available |

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications.

## 10. Stability and reactivity

| | |
|---|---|
| 10.1 Reactivity | High temperatures(>100℃) and UV light may cause rapid polymerization. |
| 10.2 Chemical stability | Polymerize under heat and/or light. |
| 10.3 Possibility of hazardous reactions | Not expected |
| 10.4 Conditions to avoid | Elevated temperatures/heat, UV light, when not in use. |
| 10.5 Incompatible materials | Avoid contact with acids, amines, free radical initiators, oxidizing agents. |
| 10.6 Hazardous decomposition products | Carbon monoxide, carbon dioxide, oxides of nitrogen, toxic gases/vapors. |

## 11. Toxicological information

11.1 Information on toxicological effects

Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

**Acute Health Hazards**: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

**Chronic Health Hazards**: No information available

**Mugtagenicity**: No information available

**Carcinogenicity**: No information available

**Acute Toxicity Data**:

Hexamethylene diacrylate LD50 Oral - Rat - 5.000 mg/kg

LC0 Inhalation - Rat - male and female - 7 h - 0,41 mg/l

LD50 Dermal - Rabbit - 3.650 mg/kg(OECD Test Guideline 402) Tetrahydrofurfuryl Acrylate

No data available2-Hydroxy-3-phenoxypropyl acrylate No data available
2-Isopropylthioxanthone No data available

2-Isopropylthioxanthone No data available

4-Benzoyl 4'-Methyldiphenyl Sulfide No data available

The information shown in SECION 3, Hazards identification, is based on toxicity profiles of similar materials or on the components present in this material.

## 12. Ecological information

12.1 Toxicity

Hexamethylene diacrylate

Toxicity to fish static test LC50 - Leuciscus idus (Golden orfe) - 4,6 - 10 mg/l - 96 h(DIN 38412)Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 2,6 mg/l - 48 h

Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - 1,5mg/l - 72 h Toxicity to bacteria

Respiration inhibition EC50 - Sludge Treatment - ca. 270 mg/l - 30min

(OECD Test Guideline 209)

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

## 13. Disposal considerations

13.1 Waste treatment methods Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging Dispose of as unused product.

## 14. Transport information

14.1 UN number

ADR/RID: — IMDG: — IATA: —

14.2 UN proper shipping name

ADR/RID: Not dangerous goodsIMDG: Not dangerous goods IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: — IMDG: — IATA: —

14.4 Packaging group

ADR/RID: — IMDG: — IATA: —

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

## 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

REACH Status: In compliance.

Preregistration status: All components are listed or exempted. Annex XIV - List of substances subject to authorization Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety Assessment No data available

15.3 Other information

**US Regulation**:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated. TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated. California Proposition 65: Not regulated.

## 16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained. Identification of the substance/preparation and of the company/undertaking

***According to***
***1907/2006/EC, Article 31***

Printing date 2023/9/5 Version: 1 Revision: M20230905

## 1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: **Colibri 5414 ( V )**

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 Details of the supplier of the safety data sheet

Company: Colibri Digital Limited

Company code:2875806 registered in Hong Kong

Company address: Suite No. A, 11/F., Ritz Plaza,, 122 Austin Road, Tsimshatsui, Kowloon, Hong Kong

香港九龍尖沙咀柯士甸道122號麗斯中心11樓A室

Phone: +852 8120 4409, E-mail: hk@colibridigital.com

## 2. Hazards identification

2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319 Skin sensitisation (Category 1), H317

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Irritating to eyes and skin.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation. Hazard pictograms



Signal word: Warning

Hazard statements:

| | |
|---|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. Precautionary statements: |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |

P280 Wear eye protection/ face protection.

P302 + P352 I F ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

## 3. Composition/information on ingredients

Chemical characterization: Mixture

| Ingredients | CAS-No. | EINECS | Percent (%) | Classification Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|---|
| Synthetic resin | 68227-93-0 | – | 15-20 | – |
| Hexamethylene diacrylate | 13048-33-4 | 235-921-9 | 25–30 | – |
| Hexamethylene diacrylate | 13048-33-4 | 235-921-9 | 15–20 | Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1; H315, H319,H317 |
| Tetrahydrofurfuryl Acrylate | 2399-48-6 | 219-268-7 | 25-30 | Skin Irrit. 2; Eye Irrit. 2; H315, H319, H317 |
| 2-Hydroxy-3-phenoxypropyl acrylate | 84170-74-1 | - | 1–5 | Flam. Liq. 4; SkinCorr./Irrit. 2; Eye Dam./Irrit. 2A; STOT SE 3; H227, H315, H319, H335 |
| 2-Isopropylthioxanthone | 5495-84-1 | 226-827-9 | 5–15 | – |
| 4-Benzoyl 4'-Methyldiphenyl Sulfide | 10287-53-3 | 233-634-3 | 1–5 | - |

## 4. First aid measures

4.1 Description of first aid measures

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Skin contact: Remove contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15-20 minutes. Consult a physician.

Ingestion: Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed Potential acute health effects

Eye contact:
Causes severe eye injury which may persist for several days.

Inhalation: Vapors or mist, especially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, may irritate nose, throat/respiratory system.

Skin contact: May cause skin irritation, injury, dermatitis, allergy and/or sensitization. Ingestion: May cause injury of mouth, throat, and stomach.

Over-exposure signs/symptoms

Eye contact: No specific data.

Inhalation: No specific data. Skin contact: No specific data. Ingestion: No specific data.

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

## 5. Fire-fighting measures

5.1 Extinguishing media Suitable extinguishing media

Alcohol-resistant foam, dry chemical, carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Carbon monoxides, carbon dioxide, oxides of nitrogen, toxic gases/vapors.

5.3 Advice for firefighters

Wear special chemical protective clothing and use breathing apparatus with independent air supply. Approach fire from upwind and avoid hazardous vapors and toxic decomposition products. Decontaminate or discard any clothing that may contain chemical residues.

5.4 Further information

Applying direct water may be dangerous because fire may expand to surroundings. Use water spray to cool unopened containers

## 6. Accidental release measures

Absorb spill with sand or earth then place in a chemical waste container.

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

## 7. Handling and storage

7.1 Handling

Keep out of reach of children and do not drink. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Make sure cartridge is dry before insertion into printer housing.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry and dark place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses Inkjet printing

## 8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

| | |
|---|---|
| Eye/face protection | Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
| Skin protection | Handle with gloves and wear appropriate protective impervious clothing. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. |
| Wash and dry hands. | The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. |
| Body Protection | Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| Respiratory protection | Handle with NIOSH approved air purifying respiratory protection equipment in case ventilation is not adequate. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US). |
| Hygiene measures: | Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area. |
| Environmental controls: | Do not release to the environment. |

## 9. Physical and chemical properties

| | | |
|---|---|---|
| 1 | Color | Clear Liquid |
| 2 | Odor | Characteristic odor |
| 3 | Boiling point/boiling range of ink | No data available |
| 4 | Melting Point/Melting Range | No data available |
| 5 | Flash point of ink | >90 °C |
| 6 | Auto-Ignition Temperature | No data available |
| 7 | Flammability(solid, gas) | Not applicable |
| 8 | Explosive Properties | No data available |

| | | |
|---|---|---|
| 9 | Vapour Pressure | No data available |
| 10 | Specific Gravity | Approx 1.04 |
| 11 | Solubility | No data available |
| 12 | Water solubility | Insoluble |
| 13 | Viscosity | 4.0-10.0 cps |
| 14 | pH | No data available |
| 15 | Oxidizing properties | No data available |

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications.

## 10. Stability and reactivity

| | |
|---|---|
| 10.1 Reactivity | High temperatures(>100℃) and UV light may cause rapid polymerization. |
| 10.2 Chemical stability | Polymerize under heat and/or light. |
| 10.3 Possibility of hazardous reactions | Not expected |
| 10.4 Conditions to avoid | Elevated temperatures/heat, UV light, when not in use. |
| 10.5 Incompatible materials | Avoid contact with acids, amines, free radical initiators, oxidizing agents. |
| 10.6 Hazardous decomposition products | Carbon monoxide, carbon dioxide, oxides of nitrogen, toxic gases/vapors. |

## 11. Toxicological information

11.1 Information on toxicological effects

Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

**Acute Health Hazards**: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

**Chronic Health Hazards**: No information available

**Mugtagenicity**: No information available

**Carcinogenicity**: No information available

**Acute Toxicity Data**:

Hexamethylene diacrylate LD50 Oral - Rat - 5.000 mg/kg

LC0 Inhalation - Rat - male and female - 7 h - 0,41 mg/l

LD50 Dermal - Rabbit - 3.650 mg/kg(OECD Test Guideline 402) Tetrahydrofurfuryl Acrylate

No data available2-Hydroxy-3-phenoxypropyl acrylate No data available
2-Isopropylthioxanthone No data available

2-Isopropylthioxanthone No data available

4-Benzoyl 4'-Methyldiphenyl Sulfide No data available

The information shown in SECION 3, Hazards identification, is based on toxicity profiles of similar materials or on the components present in this material.

## 12. Ecological information

12.1 Toxicity

Hexamethylene diacrylate

Toxicity to fish static test LC50 - Leuciscus idus (Golden orfe) - 4,6 - 10 mg/l - 96 h(DIN 38412)Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 2,6 mg/l - 48 h

Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - 1,5mg/l - 72 h Toxicity to bacteria

Respiration inhibition EC50 - Sludge Treatment - ca. 270 mg/l - 30min

(OECD Test Guideline 209)

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

## 13. Disposal considerations

13.1 Waste treatment methods Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging Dispose of as unused product.

## 14. Transport information

14.1 UN number

ADR/RID: — IMDG: — IATA: —

14.2 UN proper shipping name

ADR/RID: Not dangerous goodsIMDG: Not dangerous goods IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: — IMDG: — IATA: —

14.4 Packaging group

ADR/RID: — IMDG: — IATA: —

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

## 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

REACH Status: In compliance.

Preregistration status: All components are listed or exempted. Annex XIV - List of substances subject to authorization Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety Assessment No data available

15.3 Other information

**US Regulation**:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated. TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated. California Proposition 65: Not regulated.

## 16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained. Identification of the substance/preparation and of the company/undertaking

***According to***
***1907/2006/EC, Article 31***

Printing date 2023/9/5 Version: 1 Revision: M20230905

## 1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: **Colibri 5414 ( W )**

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 Details of the supplier of the safety data sheet

Company: Colibri Digital Limited

Company code:2875806 registered in Hong Kong

Company address: Suite No. A, 11/F., Ritz Plaza,, 122 Austin Road, Tsimshatsui, Kowloon, Hong Kong

香港九龍尖沙咀柯士甸道122號麗斯中心11樓A室

Phone: +852 8120 4409, E-mail: hk@colibridigital.com

## 2. Hazards identification

2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319 Skin sensitisation (Category 1), H317

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Irritating to eyes and skin.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation. Hazard pictograms



Signal word: Warning

Hazard statements:

| | |
|---|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. Precautionary statements: |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |

P280 Wear eye protection/ face protection.

P302 + P352 I F ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

## 3. Composition/information on ingredients

Chemical characterization: Mixture

| Ingredients | CAS-No. | EINECS | Percent (%) | Classification Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|---|
| Synthetic resin | 68227-93-0 | – | 20–25 | – |
| Titanium Dioxide | 13463-67-7 | 236-675-5 | 10-20 | – |
| Hexamethylene diacrylate | 13048-33-4 | 235-921-9 | 15–20 | Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1; H315, H319,H317 |
| Tetrahydrofurfuryl Acrylate | 2399-48-6 | 219-268-7 | 15–25 | Skin Irrit. 2; Eye Irrit. 2; H315, H319 |
| 2-Hydroxy-3-phenoxypropyl acrylate | 84170-74-1 | - | 1–5 | Flam. Liq. 4; SkinCorr./Irrit. 2; Eye Dam./Irrit. 2A; STOT SE 3; H227, H315, H319, H335 |
| 2-Isopropylthioxanthone | 5495-84-1 | 226-827-9 | 5–15 | – |
| 4-Benzoyl 4'-Methyldiphenyl Sulfide | 10287-53-3 | 233-634-3 | 1–5 | Skin Irrit. 2; Eye Irrit. 2; H315, H319 |

## 4. First aid measures

4.1 Description of first aid measures

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Skin contact: Remove contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15-20 minutes. Consult a physician.

Ingestion: Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed Potential acute health effects

Eye contact:
Causes severe eye injury which may persist for several days.

Inhalation: Vapors or mist, especially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, may irritate nose, throat/respiratory system.

Skin contact: May cause skin irritation, injury, dermatitis, allergy and/or sensitization. Ingestion: May cause injury of mouth, throat, and stomach.

Over-exposure signs/symptoms

Eye contact: No specific data.

Inhalation: No specific data. Skin contact: No specific data. Ingestion: No specific data.

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

## 5. Fire-fighting measures

5.1 Extinguishing media Suitable extinguishing media

Alcohol-resistant foam, dry chemical, carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Carbon monoxides, carbon dioxide, oxides of nitrogen, toxic gases/vapors.

5.3 Advice for firefighters

Wear special chemical protective clothing and use breathing apparatus with independent air supply. Approach fire from upwind and avoid hazardous vapors and toxic decomposition products. Decontaminate or discard any clothing that may contain chemical residues.

5.4 Further information

Applying direct water may be dangerous because fire may expand to surroundings. Use water spray to cool unopened containers

## 6. Accidental release measures

Absorb spill with sand or earth then place in a chemical waste container.

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

## 7. Handling and storage

7.1 Handling

Keep out of reach of children and do not drink. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Make sure cartridge is dry before insertion into printer housing.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry and dark place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses Inkjet printing

## 8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

| | |
|---|---|
| Eye/face protection | Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
| Skin protection | Handle with gloves and wear appropriate protective impervious clothing. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. |
| Wash and dry hands. | The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. |
| Body Protection | Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| Respiratory protection | Handle with NIOSH approved air purifying respiratory protection equipment in case ventilation is not adequate. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US). |
| Hygiene measures: | Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area. |
| Environmental controls: | Do not release to the environment. |

## 9. Physical and chemical properties

| | | |
|---|---|---|
| 1 | Color | White Liquid |
| 2 | Odor | Characteristic odor |
| 3 | Boiling point/boiling range of ink | No data available |
| 4 | Melting Point/Melting Range | No data available |
| 5 | Flash point of ink | >80 °C |
| 6 | Auto-Ignition Temperature | No data available |
| 7 | Flammability(solid, gas) | Not applicable |
| 8 | Explosive Properties | No data available |

| | | |
|---|---|---|
| 9 | Vapour Pressure | No data available |
| 10 | Specific Gravity | Approx 1.04 |
| 11 | Solubility | No data available |
| 12 | Water solubility | Insoluble |
| 13 | Viscosity | 4.0-10.0 cps |
| 14 | pH | No data available |
| 15 | Oxidizing properties | No data available |

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications.

## 10. Stability and reactivity

| | |
|---|---|
| 10.1 Reactivity | High temperatures(>100℃) and UV light may cause rapid polymerization. |
| 10.2 Chemical stability | Polymerize under heat and/or light. |
| 10.3 Possibility of hazardous reactions | Not expected |
| 10.4 Conditions to avoid | Elevated temperatures/heat, UV light, when not in use. |
| 10.5 Incompatible materials | Avoid contact with acids, amines, free radical initiators, oxidizing agents. |
| 10.6 Hazardous decomposition products | Carbon monoxide, carbon dioxide, oxides of nitrogen, toxic gases/vapors. |

## 11. Toxicological information

11.1 Information on toxicological effects

Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

**Acute Health Hazards**: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

**Chronic Health Hazards**: No information available

**Mugtagenicity**: No information available

**Carcinogenicity**: No information available

**Acute Toxicity Data**:

Hexamethylene diacrylate LD50 Oral - Rat - 5.000 mg/kg

LC0 Inhalation - Rat - male and female - 7 h - 0,41 mg/l

LD50 Dermal - Rabbit - 3.650 mg/kg(OECD Test Guideline 402) Tetrahydrofurfuryl Acrylate

No data available2-Hydroxy-3-phenoxypropyl acrylate No data available
2-Isopropylthioxanthone No data available

2-Isopropylthioxanthone No data available

4-Benzoyl 4'-Methyldiphenyl Sulfide No data available

The information shown in SECION 3, Hazards identification, is based on toxicity profiles of similar materials or on the components present in this material.

## 12. Ecological information

12.1 Toxicity

Hexamethylene diacrylate

Toxicity to fish static test LC50 - Leuciscus idus (Golden orfe) - 4,6 - 10 mg/l - 96 h(DIN 38412)Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 2,6 mg/l - 48 h

Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - 1,5mg/l - 72 h Toxicity to bacteria

Respiration inhibition EC50 - Sludge Treatment - ca. 270 mg/l - 30min

(OECD Test Guideline 209)

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

## 13. Disposal considerations

13.1 Waste treatment methods Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging Dispose of as unused product.

## 14. Transport information

14.1 UN number

ADR/RID: — IMDG: — IATA: —

14.2 UN proper shipping name

ADR/RID: Not dangerous goodsIMDG: Not dangerous goods IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: — IMDG: — IATA: —

14.4 Packaging group

ADR/RID: — IMDG: — IATA: —

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

## 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

REACH Status: In compliance.

Preregistration status: All components are listed or exempted. Annex XIV - List of substances subject to authorization Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety Assessment No data available

15.3 Other information

**US Regulation**:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated. TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated. California Proposition 65: Not regulated.

## 16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained. Identification of the substance/preparation and of the company/undertaking

***According to***
***1907/2006/EC, Article 31***

Printing date 2023/9/5 Version: 1 Revision: M20230905

## 1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: **Colibri 5414 ( Y )**

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 Details of the supplier of the safety data sheet

Company: Colibri Digital Limited

Company code:2875806 registered in Hong Kong

Company address: Suite No. A, 11/F., Ritz Plaza,, 122 Austin Road, Tsimshatsui, Kowloon, Hong Kong

香港九龍尖沙咀柯士甸道122號麗斯中心11樓A室

Phone: +852 8120 4409, E-mail: hk@colibridigital.com

## 2. Hazards identification

2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319 Skin sensitisation (Category 1), H317

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Irritating to eyes and skin.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation. Hazard pictograms



Signal word: Warning

Hazard statements:

| | |
|---|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. Precautionary statements: |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |

P280 Wear eye protection/ face protection.

P302 + P352 I F ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

## 3. Composition/information on ingredients

Chemical characterization: Mixture

| Ingredients | CAS-No. | EINECS | Percent (%) | Classification Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|---|
| Synthetic resin | 68227-93-0 | – | 20–25 | – |
| Yellow Pigment | 68511-62-6 | 270-944-8 | 3-5 | – |
| Hexamethylene diacrylate | 13048-33-4 | 235-921-9 | 15–20 | Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1; H315, H319,H317 |
| Tetrahydrofurfuryl Acrylate | 2399-48-6 | 219-268-7 | 15–25 | Skin Irrit. 2; Eye Irrit. 2; H315, H319 |
| 2-Hydroxy-3-phenoxypropyl acrylate | 16969-10-1 | 241-045-8 | 15–20 | Flam. Liq. 4; SkinCorr./Irrit. 2; Eye Dam./Irrit. 2A; STOT SE 3; H227, H315, H319, H335 |
| 2-Isopropylthioxanthone | 5495-84-1 | 226-827-9 | 5–15 | – |
| 4-Benzoyl 4'-Methyldiphenyl Sulfide | 83846-85-9 | | 1–5 | Skin Irrit. 2; Eye Irrit. 2; H315, H319 |

## 4. First aid measures

4.1 Description of first aid measures

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Skin contact: Remove contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15-20 minutes. Consult a physician.

Ingestion: Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed Potential acute health effects

Eye contact:
Causes severe eye injury which may persist for several days.

Inhalation: Vapors or mist, especially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, may irritate nose, throat/respiratory system.

Skin contact: May cause skin irritation, injury, dermatitis, allergy and/or sensitization. Ingestion: May cause injury of mouth, throat, and stomach.

Over-exposure signs/symptoms

Eye contact: No specific data.

Inhalation: No specific data. Skin contact: No specific data. Ingestion: No specific data.

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

## 5. Fire-fighting measures

5.1 Extinguishing media Suitable extinguishing media

Alcohol-resistant foam, dry chemical, carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Carbon monoxides, carbon dioxide, oxides of nitrogen, toxic gases/vapors.

5.3 Advice for firefighters

Wear special chemical protective clothing and use breathing apparatus with independent air supply. Approach fire from upwind and avoid hazardous vapors and toxic decomposition products. Decontaminate or discard any clothing that may contain chemical residues.

5.4 Further information

Applying direct water may be dangerous because fire may expand to surroundings. Use water spray to cool unopened containers

## 6. Accidental release measures

Absorb spill with sand or earth then place in a chemical waste container.

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

## 7. Handling and storage

7.1 Handling

Keep out of reach of children and do not drink. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Make sure cartridge is dry before insertion into printer housing.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry and dark place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses Inkjet printing

## 8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

| | |
|---|---|
| Eye/face protection | Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
| Skin protection | Handle with gloves and wear appropriate protective impervious clothing. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. |
| Wash and dry hands. | The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. |
| Body Protection | Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| Respiratory protection | Handle with NIOSH approved air purifying respiratory protection equipment in case ventilation is not adequate. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US). |
| Hygiene measures: | Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area. |
| Environmental controls: | Do not release to the environment. |

## 9. Physical and chemical properties

| | | |
|---|---|---|
| 1 | Color | Yellow Liquid |
| 2 | Odor | Characteristic odor |
| 3 | Boiling point/boiling range of ink | No data available |
| 4 | Melting Point/Melting Range | No data available |
| 5 | Flash point of ink | >90 °C |
| 6 | Auto-Ignition Temperature | No data available |
| 7 | Flammability(solid, gas) | Not applicable |
| 8 | Explosive Properties | No data available |

| | | |
|---|---|---|
| 9 | Vapour Pressure | No data available |
| 10 | Specific Gravity | Approx 1.04 |
| 11 | Solubility | No data available |
| 12 | Water solubility | Insoluble |
| 13 | Viscosity | 4.0-10.0 cps |
| 14 | pH | No data available |
| 15 | Oxidizing properties | No data available |

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications.

## 10. Stability and reactivity

| | |
|---|---|
| 10.1 Reactivity | High temperatures(>100℃) and UV light may cause rapid polymerization. |
| 10.2 Chemical stability | Polymerize under heat and/or light. |
| 10.3 Possibility of hazardous reactions | Not expected |
| 10.4 Conditions to avoid | Elevated temperatures/heat, UV light, when not in use. |
| 10.5 Incompatible materials | Avoid contact with acids, amines, free radical initiators, oxidizing agents. |
| 10.6 Hazardous decomposition products | Carbon monoxide, carbon dioxide, oxides of nitrogen, toxic gases/vapors. |

## 11. Toxicological information

11.1 Information on toxicological effects

Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

**Acute Health Hazards**: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

**Chronic Health Hazards**: No information available

**Mugtagenicity**: No information available

**Carcinogenicity**: No information available

**Acute Toxicity Data**:

Hexamethylene diacrylate LD50 Oral - Rat - 5.000 mg/kg

LC0 Inhalation - Rat - male and female - 7 h - 0,41 mg/l

LD50 Dermal - Rabbit - 3.650 mg/kg(OECD Test Guideline 402) Tetrahydrofurfuryl Acrylate

No data available2-Hydroxy-3-phenoxypropyl acrylate No data available
2-Isopropylthioxanthone No data available

2-Isopropylthioxanthone No data available

4-Benzoyl 4'-Methyldiphenyl Sulfide No data available

The information shown in SECION 3, Hazards identification, is based on toxicity profiles of similar materials or on the components present in this material.

## 12. Ecological information

12.1 Toxicity

Hexamethylene diacrylate

Toxicity to fish static test LC50 - Leuciscus idus (Golden orfe) - 4,6 - 10 mg/l - 96 h(DIN 38412)Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 2,6 mg/l - 48 h

Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - 1,5mg/l - 72 h Toxicity to bacteria

Respiration inhibition EC50 - Sludge Treatment - ca. 270 mg/l - 30min

(OECD Test Guideline 209)

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

## 13. Disposal considerations

13.1 Waste treatment methods Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging Dispose of as unused product.

## 14. Transport information

14.1 UN number

ADR/RID: — IMDG: — IATA: —

14.2 UN proper shipping name

ADR/RID: Not dangerous goodsIMDG: Not dangerous goods IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: — IMDG: — IATA: —

14.4 Packaging group

ADR/RID: — IMDG: — IATA: —

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

## 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

REACH Status: In compliance.

Preregistration status: All components are listed or exempted. Annex XIV - List of substances subject to authorization Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety Assessment No data available

15.3 Other information

**US Regulation**:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated. TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated. California Proposition 65: Not regulated.

## 16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained. Identification of the substance/preparation and of the company/undertaking

***According to***
***1907/2006/EC, Article 31***

Printing date 2023/9/5 Version: 1 Revision: M20230905

## 1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: **Colibri 5414 ( C )**

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 Details of the supplier of the safety data sheet

Company: Colibri Digital Limited

Company code:2875806 registered in Hong Kong

Company address: Suite No. A, 11/F., Ritz Plaza,, 122 Austin Road, Tsimshatsui, Kowloon, Hong Kong

香港九龍尖沙咀柯士甸道122號麗斯中心11樓A室

Phone: +852 8120 4409, E-mail: hk@colibridigital.com

## 2. Hazards identification

2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319 Skin sensitisation (Category 1), H317

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Irritating to eyes and skin.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation. Hazard pictograms



Signal word: Warning

Hazard statements:

| | |
|---|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. Precautionary statements: |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |

P280 Wear eye protection/ face protection.

P302 + P352 I F ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

## 3. Composition/information on ingredients

Chemical characterization: Mixture

| Ingredients | CAS-No. | EINECS | Percent (%) | Classification Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|---|
| Synthetic resin | 68227-93-0 | – | 10–15 | – |
| Blue Pigment | 147-14-8 | 205-685-1 | 3–5 | – |
| Hexamethylene diacrylate | 13048-33-4 | 235-921-9 | 15–20 | Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1; H315, H319,H317 |
| Tetrahydrofurfuryl Acrylate | 2399-48-6 | 219-268-7 | 15–25 | Skin Irrit. 2; Eye Irrit. 2; H315, H319 |
| 2-Hydroxy-3-phenoxypropyl acrylate | 16969-10-1 | 241-045-8 | 15–20 | Flam. Liq. 4; SkinCorr./Irrit. 2; Eye Dam./Irrit. 2A; STOT SE 3; H227, H315, H319, H335 |
| 2-Isopropylthioxanthone | 5495-84-1 | 226-827-9 | 5–15 | – |
| 4-Benzoyl 4'-Methyldiphenyl Sulfide | 83846-85-9 | | 1–5 | Skin Irrit. 2; Eye Irrit. 2; H315, H319 |

## 4. First aid measures

4.1 Description of first aid measures

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Skin contact: Remove contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15-20 minutes. Consult a physician.

Ingestion: Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed Potential acute health effects

Eye contact: Causes severe eye injury which may persist for several days.

Inhalation: Vapors or mist, especially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, may irritate nose, throat/respiratory system.

Skin contact: May cause skin irritation, injury, dermatitis, allergy and/or sensitization. Ingestion: May cause injury of mouth, throat, and stomach.

Over-exposure signs/symptoms

Eye contact: No specific data.

Inhalation: No specific data. Skin contact: No specific data. Ingestion: No specific data.

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

## 5. Fire-fighting measures

5.1 Extinguishing media Suitable extinguishing media

Alcohol-resistant foam, dry chemical, carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Carbon monoxides, carbon dioxide, oxides of nitrogen, toxic gases/vapors.

5.3 Advice for firefighters

Wear special chemical protective clothing and use breathing apparatus with independent air supply. Approach fire from upwind and avoid hazardous vapors and toxic decomposition products. Decontaminate or discard any clothing that may contain chemical residues.

5.4 Further information

Applying direct water may be dangerous because fire may expand to surroundings. Use water spray to cool unopened containers

## 6. Accidental release measures

Absorb spill with sand or earth then place in a chemical waste container.

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

## 7. Handling and storage

7.1 Handling

Keep out of reach of children and do not drink. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Make sure cartridge is dry before insertion into printer housing.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry and dark place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses Inkjet printing

## 8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

| | |
|---|---|
| Eye/face protection | Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
| Skin protection | Handle with gloves and wear appropriate protective impervious clothing. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. |
| Wash and dry hands. | The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. |
| Body Protection | Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| Respiratory protection | Handle with NIOSH approved air purifying respiratory protection equipment in case ventilation is not adequate. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US). |
| Hygiene measures: | Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area. |
| Environmental controls: | Do not release to the environment. |

## 9. Physical and chemical properties

| | | |
|---|---|---|
| 1 | Color | Cyan Liquid |
| 2 | Odor | Characteristic odor |
| 3 | Boiling point/boiling range of ink | No data available |
| 4 | Melting Point/Melting Range | No data available |
| 5 | Flash point of ink | >90 °C |
| 6 | Auto-Ignition Temperature | No data available |
| 7 | Flammability(solid, gas) | Not applicable |
| 8 | Explosive Properties | No data available |

| | | |
|---|---|---|
| 9 | Vapour Pressure | No data available |
| 10 | Specific Gravity | Approx 1.04 |
| 11 | Solubility | No data available |
| 12 | Water solubility | Insoluble |
| 13 | Viscosity | 4.0-10.0 cps |
| 14 | pH | No data available |
| 15 | Oxidizing properties | No data available |

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications.

## 10. Stability and reactivity

| | |
|---|---|
| 10.1 Reactivity | High temperatures(>100℃) and UV light may cause rapid polymerization. |
| 10.2 Chemical stability | Polymerize under heat and/or light. |
| 10.3 Possibility of hazardous reactions | Not expected |
| 10.4 Conditions to avoid | Elevated temperatures/heat, UV light, when not in use. |
| 10.5 Incompatible materials | Avoid contact with acids, amines, free radical initiators, oxidizing agents. |
| 10.6 Hazardous decomposition products | Carbon monoxide, carbon dioxide, oxides of nitrogen, toxic gases/vapors. |

## 11. Toxicological information

11.1 Information on toxicological effects

Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

**Acute Health Hazards**: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

**Chronic Health Hazards**: No information available

**Mugtagenicity**: No information available

**Carcinogenicity**: No information available

**Acute Toxicity Data**:

Hexamethylene diacrylate LD50 Oral - Rat - 5.000 mg/kg

LC0 Inhalation - Rat - male and female - 7 h - 0,41 mg/l

LD50 Dermal - Rabbit - 3.650 mg/kg(OECD Test Guideline 402) Tetrahydrofurfuryl Acrylate

No data available2-Hydroxy-3-phenoxypropyl acrylate No data available
2-Isopropylthioxanthone No data available

2-Isopropylthioxanthone No data available

4-Benzoyl 4'-Methyldiphenyl Sulfide No data available

The information shown in SECION 3, Hazards identification, is based on toxicity profiles of similar materials or on the components present in this material.

## 12. Ecological information

12.1 Toxicity

Hexamethylene diacrylate

Toxicity to fish static test LC50 - Leuciscus idus (Golden orfe) - 4,6 - 10 mg/l - 96 h(DIN 38412)Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 2,6 mg/l - 48 h

Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - 1,5mg/l - 72 h Toxicity to bacteria

Respiration inhibition EC50 - Sludge Treatment - ca. 270 mg/l - 30min

(OECD Test Guideline 209)

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

## 13. Disposal considerations

13.1 Waste treatment methods Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging Dispose of as unused product.

## 14. Transport information

14.1 UN number

ADR/RID: — IMDG: — IATA: —

14.2 UN proper shipping name

ADR/RID: Not dangerous goodsIMDG: Not dangerous goods IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: — IMDG: — IATA: —

14.4 Packaging group

ADR/RID: — IMDG: — IATA: —

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

## 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

REACH Status: In compliance.

Pre-
registration status: All components are listed or exempted. Annex XIV - List of substances subject to authorization Substances of very high concern
None of the components are listed.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Not applicable.

15.2 Chemical Safety Assessment No data available

15.3 Other information

**US Regulation**:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.
TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated. TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.
TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated. California Proposition 65: Not regulated.

## 16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained. Identification of the substance/preparation and of the company/undertaking