

**Material name: IORA Model Magenta**

In compliance with Regulation (EG) 1907/2006 (REACH) as amended

**SECTION 1: Identification of the substances/mixture and of the company/undertaking**

**1.1 Product identifiers**

Product name: IORA Model Magenta

**1.2 Recommended uses of the mixture and restricted uses**

Identified uses: Printing ink

Uses advised against: None known

This product is a cartridge containing ink. Under normal conditions of use, the substance is released from a cartridge only inside an appropriate printing system, and therefore, exposure is limited.

**1.3 Details of the supplier of the safety data sheet:**

Company: iSQUARED AG  
Kreuzlingerstrasse 5  
CH-8547 Lengwil, Schweiz  
Telephone: CH: +41 (0) 71 532 99 - 00  
E-mail: info@isquared.eu.com

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### **SECTION 2: Hazards identification**

#### **2.1 Classification of the substance or mixture**

##### **Classification according to Regulation (EG) Nr. 1272/ 2008 (CLP)**

Acute toxicity - oral	Category 4	H302
Skin irritation	Category 2	H315
Serious eye damage	Category 1	H318
Skin sensitisation	Category 1	H317
Eye irritation	Category 2	H319
Specific target organ toxicity - single exposure	Category 3	H335
Reproductive toxicity	Category 2	H361
Specific target organ toxicity - repeated exposure	Category 2	H373
Chronic aquatic toxicity	Category 2	H411

For the full text of the H-Statements mentioned in this Section, see Section 16

#### **2.2 Label Elements:**

##### **Labeling according to Regulation (EC) 1272/2008 [CLP]:**

###### Pictograms:



Signal word:     Danger

##### **Hazard Statements**

H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

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H411 Toxic to aquatic life with long lasting effects

**Precaution Statements**

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P302+P352 If on skin Wash with plenty of soap and water  
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention  
P363 Wash contaminated clothing before reuse  
P337+P313 If eye irritation persists: Get medical advice/ attention  
Storage: Store in a well ventilated area. Keep the container tightly closed when not in use.  
Store away from heat and light.  
P501 (Disposal) Dispose of contents/ container in accordance with local/ regional/ national regulations

**2.3 Other Hazards:**

None known

**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

CAS EC NR. Registration No.	Komponente/Synonyme	1272/2008 (CLP)	Gew. %
5888-33-5 227-561-6 01-2119957862-25-0001	Isobornyl acrylate	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) Aquatic Chronic 2 (H411)	≤30
5117-12-4 418-140-1 01-2120102080-83-000 0	4-(1-Oxo-2-propenyl)-morpholine	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Skin Sens. 1 (H317) STOT RE 2 (H373)	≤30
---	Proprietary	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)	≤30

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---	Proprietary	Classified as not hazardous	≤30
---	Proprietary	Classified as not hazardous	≤30
75980-60-8 278-355-8 01-2119972295-29-0000	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Skin Sens. 1 (H317) Repr. 2 (H361) Aquatic Chronic 2 (H411)	≤5
---	Proprietary	Not classified	≤5
---	Titanium Dioxide	Classified as not hazardous	≤5
---	Proprietary	Skin Sens. 1 (H317) Aquatic Chronic 4 (H413)	≤3
---	Proprietary	Aquatic Chronic 2 (H411)	≤3

For the full text of the H-Statements mentioned in this Section, see Section 16.

Additional Information: Under normal conditions of use, the substance is released from a cartridge only inside an appropriate system, and therefore exposure is limited. The liquid within the cartridges is considered hazardous, and the MSDS has been prepared in case of exposure to the liquid.

## **SECTION 4: First aid measures**

### **4.1 Description of first aid measures**

**General advice:**

If exposed, consult a physician. Show this safety data sheet to the doctor in attendance. Immediate medical attention is recommended.

**If inhaled:**

If breathed in, move the person to fresh air. If not breathing, give artificial respiration. If symptoms occur, seek medical attention immediately.

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**In case of skin contact:**

Wash off with soap and plenty of water. Remove contaminated clothing and shoes. In case of allergic reaction seek medical attention.

**In case of eye contact:**

Keep eyes wide open and rinse thoroughly with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Seek medical attention.

**If swallowed:**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical attention.

**Self-protection of the first aider:**

Put on appropriate protective equipment (see section 8). Move the exposed person to fresh air. Remove contaminated clothing and shoes.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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

No data available

**4.4 Most important symptoms and effects, acute and delayed**

Symptoms: Burning sensation, itching, rashes, hives.

Note to physicians: May cause sensitization in susceptible persons, which can be treated symptomatically

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## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media:**

#### **Suitable extinguishing media:**

Use an extinguishing agent suitable for surrounding fire. Class B fires: use alcohol-resistant foam, dry chemicals like sodium bicarbonate or carbon dioxide.

#### **Unsuitable extinguishing media:**

Caution: Water spray may be inefficient.

### **5.2 Special hazards arising from the substance or mixture:**

Carbon oxides, nitrogen oxides (NO<sub>x</sub>), phosphorus oxides

### **5.3 Advice for firefighters:**

Wear self-contained breathing apparatus for firefighting and full firefighting turnout gear. Cool containers with plenty of water until after the fire is out. Remove containers from the area of fire if it can be done without risk. Keep out of drains, sewers, ditches and waterways. Inhalation of fumes and aerosols is a health risk.

### **5.4 Further information:**

The substance is not sensitive to mechanical impact or static discharge.

## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

#### **Personal precautions:**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8. Consult an expert immediately. Stay away from leaked material.

#### **Occupational spill/release:**

Intact cartridges do not pose a leak or spill hazard. Damaged cartridges may leak uncured ink. Stop leaking if possible without personal risk. Absorb with chemical absorber for oils or other noncombustible

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material. Collect spilled material in the appropriate container for disposal. Keep out of water supplies, sewers etc. Clean contaminated areas thoroughly according to local regulations.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Wear appropriate protective equipment and clothing.

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. For disposal see section 13.

## **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Handle in accordance with good industrial hygiene and safety practice. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry place away from light and heat. Keep the container tightly closed in a well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store sealed in the original container at room temperature.

Storage temperature: between 15 °C and 25 °C.

Shipment temperatures (up to 5 weeks) -20°C to 50°C.

## **SECTION 8: Exposure controls/personal protection**

### 8.1 Exposure limit values

General product information: No occupational exposure limits (PEL/TWA) have been established for this product.

#### **Component Manufacturer IEL (Internal Exposure Limit)**

Diphenyl(2,4,6-trimethylbenzoyl)phosphin oxide 3.5 mg/m<sup>3</sup>

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**Derived No Effect Level (DNEL)**

No information available

**Predicted No Effect Concentration**

No information available

## 8.2 Exposure Controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands immediately after using this product, before breaks and at the end of workday. Do not eat, drink, smoke or apply makeup while using this product.

### Personal protective equipment Eye/face protection

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. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the 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

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation of the respiratory system is observed, ventilation and evacuation may be required.

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.



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**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Appearance	liquid (Ink cartridge)
Colour	pink
Odour	characteristic
Odour Threshold	no data available
pH	no data available
Melting point/freezing point	no data available
Initial boiling point and boiling range	no data available
Flash point	no data available
Evaporation rate	no data available
Flammability (solid, gas)	no data available
Upper/lower flammability or explosive limits	no data available
Vapor pressure	no data available
Vapour density	no data available
Relative density	no data available
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	no data available
Decomposition temperature	no data available
Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Heating may cause a fire.

**10.2 Chemical stability**

Unstable on exposure to light. Unstable on exposure to heat.

**10.3 Possibility of hazardous reactions**

Uncured ink will polymerize on exposure to light under development of heat.

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**10.4 Conditions to avoid**

Avoid exposure to heat and light.

**10.5 Incompatible materials**

Not applicable under normal conditions of use and storage.

**10.6 Hazardous decomposition products**

Thermal decomposition products: Combustion: carbon oxides, nitrous oxides, phosphorus oxides.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Isobornyl acrylate:	LD50 oral - rat	4.890mg/kg
	LD50 dermal - rabbit:	>5.000mg
	Remarks: Behavioral: Tremor, Lungs, Thorax, or Respiration: Dyspnea. Skin and Appendages: Other: Hair.	
4-(1-Oxo-2-propenyl)-morpholine:	LD50 oral - rat:	588 mg/kg (OECD Test Guideline 401)
	LD50 dermal - rat:	>2000 mg/kg
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	LD50 oral - rat (m/f):	5000 mg/kg (OECD Test Guideline 401)
	LD50 dermal - rat (m/f):	>2000 mg/kg (OECD Test Guideline 402)

**Skin corrosion/irritation**

Isobornyl acrylate:	moderate skin irritation
4-(1-Oxo-2-propenyl)-morpholine:	rabbit: no skin irritation - 24 h
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	rabbit: no skin irritation - 24 h

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### Serious eye damage/eye irritation

Isobornyl acrylate:	moderate eye irritation
4-(1-Oxo-2-propenyl)-morpholine:	rabbit: Risk of serious damage to eyes (OECD Test Guideline 405)
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	rabbit: no eye irritation

### Respiratory or skin sensitisation

Isobornyl acrylate:	no data available
4-(1-Oxo-2-propenyl)-morpholine:	in vivo assay - guinea pig May cause sensitisation by skin contact. (Directive 67/548/EEC, Annex V, B.6.)
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	mouse: May cause sensitisation by skin contact. (OECD Test Guideline 429)

### Germ cell mutagenicity

Isobornyl acrylate:	no data available
4-(1-Oxo-2-propenyl)-morpholine:	no data available
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	in vitro mammalian cell gene mutation test Chinese hamster lung cells: negative

### Carcinogenicity

Isobornyl acrylate:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
4-(1-Oxo-2-propenyl)-morpholine:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	ARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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### Reproductive toxicity

Isobornyl acrylate:	no data available
4-(1-Oxo-2-propenyl)-morpholine:	no data available
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	no data available

### Specific target organ toxicity - single exposure

Isobornyl acrylate:	Inhalation - May cause respiratory irritation.
4-(1-Oxo-2-propenyl)-morpholine:	no data available
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	no data available

### Specific target organ toxicity - repeated exposure

Isobornyl acrylate:	no data available
4-(1-Oxo-2-propenyl)-morpholine:	no data available
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	no data available

### Aspiration hazard

Isobornyl acrylate:	no data available
4-(1-Oxo-2-propenyl)-morpholine:	no data available
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	no data available

### Additional Information

Isobornyl acrylate:	RTECS: UD3940000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
4-(1-Oxo-2-propenyl)-morpholine:	RTECS: Not available Headache, Nausea. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide:	Repeated dose toxicity: Rat - male and female - Oral - NOAEL : 100 mg/kg - LOAEL : 300 mg/kg (OECD Test Guideline 408)

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RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

The aquatic toxicity of the product is unknown; however, based on components, it is predicted that this material may be toxic to aquatic organisms or cause long-term adverse effects in the aquatic environment.

Prevent contamination of soil, drains and surface waters

### **12.2 Ecotoxicity of components**

Isobornyl acrylate:

Toxicity to daphnia and other aquatic invertebrates

4-(1-Oxo-2-propenyl)-morpholine:

Toxicity to algae: Growth inhibition EC50 - Pseudokirchneriella subcapitata - > 120 mg/l - 72h (OECD Test Guideline 201)

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

Toxicity to fish: static test LC50 - Danio rerio (zebra fish) - 1 - 10 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: Immobilization EC50 - Daphnia magna (Water flea) - 3,53 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae: Growth inhibition EC50 - Pseudokirchneriella subcapitata (green algae) - > 2,01 mg/l - 72 h (OECD Test Guideline 201)

### **12.3 Persistence and degradability**

No information available for product

### **12.4 Bioaccumulative potential**

No information available for product

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**12.5 Mobility in soil**

No information available for product

**12.6 Results of PBT and vPvB assessment**

No information available for product

**12.6 Other adverse effects**

No information available for product

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product. Do not reuse or refill empty containers.

**13.2 Additional information**

Prior to disposal iSQUARED recommends consulting an approved waste disposal firm to ensure regulatory compliance.

**SECTION 14: Transport information**

**DOT (US)**

Non-hazardous for transportation.

**IATA**

Non-hazardous for transportation.

**IMDG**

Non-hazardous for transportation.

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### **SECTION 15: Regulatory information**

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

##### **EU – REACH (1907/2006) – Annex XIV List of Substances subject to Authorisation**

No components of this material are listed.

##### **EU – REACH (1907/2006) – Article 59(1) Candidate List of Substances for Eventual Inclusion in Annex XIV**

No components of this material are listed.

##### **EU – REACH (1907/2006) – Annex XVII Restrictions of Certain Dangerous Substances, Mixtures and Articles**

No components of this material are listed.

#### **Germany Regulations**

##### **Germany Water Classification**

Isobornyl acrylate (5888-33-5) ID Number 2247, hazard class 2 - hazard to waters

4-(1-Oxo-2-propenyl)-morpholine (5117-12-4) ID Number 6697, hazard class 2 - hazard to waters

Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide (75980-60-8) ID Number 6366, hazard class 2 - hazard to waters

#### **Denmark Regulations**

##### **Environmental Protection Agency List of Undesirable Substances**

No components of this materials are listed.

#### **EU-Inventory**

##### **Substances Analysis - Inventory**

<b>CAS</b>	<b>Component</b>	<b>Substance Listed</b>
5888-33-5	Isobornyl acrylate	EINECS
5177-12-4	4-(1-Oxo-2-propenyl)-morpholine	ELINCS
-	Proprietary	EINECS

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75980-6 0-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	EINECS
-	Proprietary	EINECS

## 15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for the substance.

### **SECTION 16: Other information**

#### **Full text of H-Statements referred to under sections 2 and 3.**

- H302 Harmful if swallowed
- H315 Causes skin irritation
- H318 Causes serious eye damage
- H317 May cause an allergic skin reaction
- H319 Causes serious eye irritation
- H335 May cause respiratory irritation
- H361 Suspected of damaging fertility or the unborn child
- H373 May cause damage to organs through prolonged or repeated exposure
- H411 Toxic to aquatic life with long lasting effects

#### **Key/Legend**

DOT (US) – US Department of Transportation; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; ELINCS - European List of Notified Chemical Substances; EN – European Standard; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); NIOSH - National Institute for Occupational Safety and Health; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006; STOT – Specific Target Organ Toxicity; TWA - Time Weighted Average

**Read the MSDS before handling the product.**