

## Safety Data Sheet

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

#### 1.1. Product identifier

imageCure, PRH35-ST

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

Stereolithography Resin

#### 1.3. Details of the supplier of the safety data sheet

Manufacturer's name: Roland DG Corporation  
Address: 1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi,  
Shizuoka-ken, 431-2103  
JAPAN  
Phone: + 81-53-484-1224  
Fax: + 81-53-484-1226

#### 1.4. Emergency telephone:

Revised date: 28 December, 2015

### 2. Hazard identification

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

This product is classified as dangerous according to GHS.

Sensitization - skin	Category 1
Toxic to reproduction	Category 2
Hazardous to the aquatic environment - long-term hazard	Category 4

#### 2.2. GHS label elements, including precautionary statements

Pictogram



Signal word(s)

Warning

Hazard statement(s)

May cause an allergic skin reaction.  
Suspected of damaging fertility or the unborn child.  
May cause long lasting harmful effects to aquatic life.

## Precautionary statement(s)

## Prevention

Do not handle until all safety precautions have been read and understood.  
 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 Avoid release to the environment.  
 Wear protective gloves/protective clothing/eye protection/face protection.

## Response

IF ON SKIN: Wash with plenty of soap and water.  
 IF exposed or concerned: Get medical advice/attention.

## 2.3. Other hazards

## Potential Health Effects:

## Eyes:

Contact with eye will be irritating.

## Skin:

Contact with skin may cause irritation, swelling or redness, allergy and/or sensitization.

## Inhalation:

Exposure to vapors (mist) may be harmful to the unborn child and at the risk of impaired fertility and irritate nose, throat/respiratory system.

## Ingestion:

May cause injury of mouth ,throat, and stomach.

## Chronic Health Hazards:

Repeated skin contact may cause a persistent irritation or dermatitis.

## Carcinogenicity:

None of the ingredients in this resin is listed by IARC as a carcinogen. (1,2A and 2B)

## 3. Composition/information on ingredients

**Chemical nature:** mixture

Composition	CAS No.	EC No.	EU registration No.	% By Weight	Classification EC No. 1272/2008
Bisphenol A, ethoxylated, dimethacrylate	41637-38-1	609-946-4	N/A for the moment	80-90	Aquatic Chronic 4: H413
Ethylene dimethacrylate	97-90-5	202-617-2	N/A for the moment	<5	STOT SE 3: H335 Skin Sens. 1: H317
Methacrylic ester	C.B.I.	C.B.I.	N/A for the moment	<5	Not classified as hazardous
1,2,2,6,6-pentamethyl-4-piperidyl methacrylate	68548-08-3	271-354-3	N/A for the moment	<10	Skin Irrit. 2: H315 Aquatic Chronic 3: H412
Diphenyl(2,4,6-trimethylbenzoyl) phosphine oxide	75980-60-8	278-355-8	N/A for the moment	1-5	Repr. 2: H361f

\*C.B.I.: Confidential Business Information

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

#### 4. First aid measures

##### 4.1. Description of first aid measures

- Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician.
- Skin: In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician.
- Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
- Ingestion: If swallowed, DO NOT induce vomiting. Seek immediate medical advice.

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

- Eyes: Contact with eye will be irritating.
- Skin: Contact with skin may cause irritation, swelling or redness, injury, dermatitis, allergy and/or sensitization.
- Inhalation: Vapors or mist, especially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, may be harmful to the unborn child and at the risk of impaired fertility irritate nose, throat/respiratory system.
- Ingestion: May cause injury of mouth ,throat, and stomach.

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

No information

#### 5. Firefighting measures

##### 5.1. Extinguishing media

Suitable extinguishing media:  
Carbon dioxide, dry chemical, foam.

Unsuitable extinguishing media:  
**Water must not be used to extinguish.**

##### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products: Carbon monoxide, carbon dioxide, oxides of nitrogen, toxic gases/vapors.

Flash Point: >93deg.C

##### 5.3. Advice for firefighters

Wear special chemical protective clothing and positive pressure self-contained breathing apparatus. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Decontaminate or discard any clothing that may contain chemical residues.

Applying direct water may be dangerous because fire may expand to surroundings.

**6. Accidental release measures**

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus and wear appropriate personal protective equipment.

6.2. Environmental precautions

**Wipe off spillage.** Prevent liquid from entering sewers, waterways or low areas.

6.3. Methods and material for containment and cleaning up

Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.4. Reference to other sections

Refer to “Section 8 Exposure controls/ personal protection” and “Section 13 Disposal consideration” as appropriate.

**7. Handling and storage**

7.1. Precautions for safe handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Put protection wear that has electrical conductivity in case of work. Keep out of reach of children and do not drink.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed. Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with metals, amines, free radical initiators, oxidising agents.

7.3. Specific end use(s): Stereolithography Resin

**8. Exposure controls/ personal protection**

8.1. Control parameters

Occupational Exposure Limits:  
DNEL(Derived No Effect Level)

components	Long term exposure	Short term exposure
Bisphenol A, ethoxylated, dimethacrylate	3.52mg/m <sup>3</sup>	-
Ethylene dimethacrylate	2.45mg/m <sup>3</sup>	-
Diphenyl(2,4,6-trimethylbenzoyl) phosphine oxide	3.5mg/m <sup>3</sup>	-

\*Refere to Toxicological Information of REACH registered substance.

(Assessment information of exposure via inhalation route for workers)

## 8.2 Exposure controls:

Occupational Exposure controls:	Control the airborne concentrations below the exposure limits. Use only with adequate ventilation.
Personal protective equipment:	
Eye protection:	Employee must wear splash-proof or dust safety goggles and a faceshield to prevent contact with this product.
Skin protection:	Employee must wear appropriate protective impervious clothing and equipment to prevent repeated or prolonged skin contact with this substance.
Hand protection:	Employee must wear appropriate protective impervious gloves to prevent contact with this substance. Recommended Chemical-Protective Gloves are polyvinyl alcohol (PVA) Gloves and Laminate gloves. Laminate gloves are made by cutting and then heat-sealing patterns of various hand sizes from laminated sheets of PVA sealed between layers of polyethylene.
Respiratory protection:	In case ventilation is insufficient, employee must use NIOSH approved air purifying respiratory protection equipment. Use a half facepiece respirator (with gollges) or full face-piece respirator (without goggles) filtered with organic vapor cartridge. For emergency and other conditions where the exposure guideline may be exceeded,use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self contained air supply. <b>WARNING:</b> Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.
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 exposure controls:	Avoid release to the environment.

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance:	Clear Liquid
Odor:	Characteristic odor
pH:	Not applicable
Boiling point (deg.C)	No data available
Flash point (deg.C)	> 93deg.C
Ignition temperature (deg.C)	No data available
Flammability limits (vol-%)	No data available
Specific Gravity (g/cm <sup>3</sup> , 20deg.C )	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available
Vapor pressure:	No data available
Solubility:	No data available
Solubility in water (g/l, 20deg.C)	Insoluble
Partition coefficient: n-octanol/water:	No data available
Viscosity:	No data available
Melting Point :	No data available
Evaporation Rate	No data available
Vapor Density	No data available

### 9.2. Other information: No information

## 10. Stability and reactivity

- 10.1. Reactivity: High temperatures 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

#### Acute toxicity:

1,2,2,6,6-pentamethyl-4-piperidyl methacrylate (of one component of this product)

LD50 ( Oral-rat )	>4060 mg/kg
LD50 ( Skin )	No data available
LC50 ( Inhalation )	No data available

Serious eye damage/eye irritation: No data available

Skin corrosion/irritation: No data available  
 Causes skin irritation.(1,2,2,6,6-pentamethyl-4-piperidyl methacrylate)

Respiratory or skin sensitisation: No data available  
 May cause an allergic skin reaction.(Ethylene dimethacrylate)

Germ cell mutagenicity: No data available

Reproductive toxicity: No data available  
 Suspected of damaging fertility or the unborn child.(Diphenyl(2,4,6-trimethylbenzoyl) phosphine oxide)

Carcinogenicity: None of the ingredients in this product is listed by IARC as a carcinogen. (1,2A and 2B)

STOT-single exposure: No data available  
 May cause respiratory irritation. (1,2,2,6,6-pentamethyl-4-piperidyl methacrylate)

STOT-repeated exposure: No data available

Aspiration hazard: No data available

## 12. Ecological information

### 12.1. Toxicity:

The followings are according to the data on Bisphenol A, ethoxylated, dimethacrylate.

May cause long lasting harmful effects to aquatic life.

12.2. Persistence and degradability: No data available

12.3. Bioaccumulative potential: No data available

12.4. Mobility in soil: No data available

12.5. Results of PBT and vPvB assessment: Has not carried out PBT and vPvB assessment.

12.6. Other adverse effects: No data available

## 13. Disposal considerations

### 13.1. Waste treatment methods:

This product is considered as a hazardous waste according to Directive 2008/98/EC.

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations. Do not flush to surface water or sanitary sewer system.

#### 14. Transport information

- 14.1. UN Class/UN Number:  
ADR/ADG/DOT, IMDG, or IATA : **Not regulated**
- 14.2. UN proper shipping name:  
ADR/ADG/DOT, IMDG, or IATA : **Not regulated**
- 14.3. Transport hazard class(es):  
ADR/ADG/DOT, IMDG, or IATA : **Not regulated**
- 14.4. Packing group:  
ADR/ADG/DOT, IMDG, or IATA : **Not regulated**
- 14.5. Environmental hazards:  
ADR/ADG/DOT, IMDG, or IATA : **Not regulated**
- 14.6. Special precautions for user: Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.
- 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC code: **Not regulated**

#### 15. Regulatory information

##### US information:

##### Toxic Substances Control Act (TSCA):

All components of this product are listed on the TSCA Inventory.

##### SARA Title III:

Section 313:

Methacrylic ester (Chemical Category N230)

##### California; Proposition 65:

WARNING: This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

##### EU information:

Chemical Safety Assessment according to (EC)1907/2006:

This product has not carried out any Chemical Safety Assessment yet.

##### Australia Information:

**Hazardous statement:** Classified as hazardous according to NOHSC criteria.

One of the substance in this product is being introduced under a Low Volume Chemical Permit granted under section 21U(2) of the Industrial Chemicals (Notification and Assessment) Act 1989.

##### International Information:

None of the ingredients in this resin is listed by IARC as a carcinogen. (1,2A and 2B)

#### 16. Other information

List of relevant H-Statements:

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H335 May cause respiratory irritation.
- H361f Suspected of damaging fertility.
- H412 Harmful to aquatic life with long lasting effects.
- H413 May cause long lasting harmful effects to aquatic life.

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.