

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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Thermostar UV Rotary Screen Ink

Revision 2

Revision date 2015-07-03

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

1.1. Product identifier

Product name	Thermostar UV Rotary Screen Ink
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1.2. Relevant identified uses of the substance or mixture and uses advised against

Product Use	[SU22] Professional uses: Public domain (administration, education, entertainment, services, craftsmen); [SU7] Printing and reproduction of recorded media; [PC18] Ink and toners;
Description	Thermochromic pigment dispersion in UV curing resin.

1.3. Details of the supplier of the safety data sheet

Company	Thermographic Measurements Ltd
Address	Riverside Buildings Dock Road Connah's Quay Flintshire CH5 4DS United Kingdom
Web	www.t-m-c.com
Telephone	+44 (0)1244 818348
Fax	+44 (0)1244 818502
Email	sales@t-m-c.com
Email address of the competent person	chrisc@t-m-com

1.4. Emergency telephone number

Emergency telephone number	+44 (0)1244 818348 Hours 09.00 to 17.00
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Intended use

Intended use	Manufacture of temperature-indicating products and temperature-sensitive decorative effects.
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

2.2. Label elements

Hazard pictograms	
Signal Word	Danger

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2.2. Label elements

Hazard Statement	Skin Irrit. 2: H315 - Causes skin irritation. Skin Sens. 1: H317 - May cause an allergic skin reaction. Eye Dam. 1: H318 - Causes serious eye damage.
Precautionary Statement: Prevention	P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash thoroughly after handling. P272 - Contaminated work clothing should not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary Statement: Response	P302+P352 - IF ON SKIN: Wash with plenty of water/ . P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 -Immediately call a POISON CENTER/doctor/ . P321 - Specific treatment (see on this label). P332+P313 - If skin irritation occurs: Get medical advice/attention. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
Precautionary Statement: Disposal	P501 - Dispose of contents/container to

SECTION 3: Composition/information on ingredients

3.2. Mixtures

67/548/EEC / 1999/45/EC

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
Dipropylene glycol diacrylate		57472-68-1			20 - 30%	Xi; R38-41-43	
Ethoxylated (3) Trimethylolpropane Triacrylate		28961-43-5			10 - 20%	Xi; R36-43	
4,4'-Isopropylidenediphenol Acrylate	604-030-00-0	80-05-7	201-245-8		1 - 10%	Repr. Cat. 3; R62 Xi; R37-41 R43 R52 Xi; R36/37/38	
Hexane-1,6-diol diacrylate	607-109-00-8	13048-33-4	235-921-9		0.5 - 1%	Xi; R36/38 R43	
Formaldehyde...%	605-001-00-5	50-00-0	200-001-8		0 - 0.5%	Carc. Cat. 3; R40 T; R23/24/25 C; R34 R43	

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
Dipropylene glycol diacrylate		57472-68-1			20 - 30%	Skin Irrit. 2: H315; Skin Sens. 1: H317; Eye Dam. 1: H318;	
Ethoxylated (3) Trimethylolpropane Triacrylate		28961-43-5			10 - 20%	Skin Irrit. 2: H315; Skin Sens. 1: H317;	
4,4'-Isopropylidenediphenol Acrylate	604-030-00-0	80-05-7	201-245-8		1 - 10%	Repr. 2: H361f; STOT SE 3: H335; Eye Dam. 1: H318; Skin Sens. 1: H317;	
Hexane-1,6-diol diacrylate	607-109-00-8	13048-33-4	235-921-9		0.5 - 1%	Eye Irrit. 2: H319; Skin Irrit. 2: H315; Skin Sens. 1: H317;	
TPO		75980-60-8	278-355-8		0.5 - 1%	Repr. 2: H361f; Aquatic Chronic 3: H412;	

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

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

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

Inhalation	Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system. Seek medical attention if irritation or symptoms persist.
Eye contact	Irritating to eyes. Seek medical attention if irritation or symptoms persist.
Skin contact	Irritating to skin. Seek medical attention if irritation or symptoms persist.
Ingestion	Keep the affected person warm and at rest. Seek medical attention if irritation or symptoms persist.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

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

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

6.1. Personal precautions, protective equipment and emergency procedures

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

	Do not allow product to enter drains. Prevent further spillage if safe.
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6.3. Methods and material for containment and cleaning up

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

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

7.1. Precautions for safe handling

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

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

	Apply a barrier cream before handling the product. Avoid contact with eyes. Avoid contact with skin.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Exposure Limit Values

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8.1.1. Exposure Limit Values

4,4'-Isopropylidenediphenol	WEL 8-hr limit ppm: - WEL 15 min limit ppm: - WEL 8-hr limit mg/m3 total inhalable dust: - WEL 8-hr limit mg/m3 total respirable dust: -	WEL 8-hr limit mg/m3: 10 WEL 15 min limit mg/m3: - WEL 15 min limit mg/m3 total inhalable dust: - WEL 15 min limit mg/m3 total respirable dust: -
Formaldehyde...%	WEL 8-hr limit ppm: 2 WEL 15 min limit ppm: 2 WEL 8-hr limit mg/m3 total inhalable dust: - WEL 8-hr limit mg/m3 total respirable dust: -	WEL 8-hr limit mg/m3: 2.5 WEL 15 min limit mg/m3: 2.5 WEL 15 min limit mg/m3 total inhalable dust: - WEL 15 min limit mg/m3 total respirable dust: -

8.2. Exposure controls

8.2.1. Appropriate engineering controls	Ensure adequate ventilation of the working area.
8.2.2. Individual protection measures	Wear chemical protective clothing.
Eye / face protection	Approved safety goggles.
Skin protection - Handprotection	Chemical resistant gloves (PVC).
Respiratory protection	Wear:.. Suitable respiratory equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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

SECTION 10: Stability and reactivity

10.1. Reactivity

	Stable.
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10.2. Chemical stability

	Stable under normal conditions.
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10.3. Possibility of hazardous reactions

	No Significant Hazard.
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10.4. Conditions to avoid

	No Significant Hazard.
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10.5. Incompatible materials

	No Significant Hazard.
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10.6. Hazardous decomposition products

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

11.1. Information on toxicological effects

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

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11.1.4. Toxicological Information

4,4'-Isopropylidenediphenol	Oral Rat LD50: 4240 mg/kg Dermal Rabbit LD50: 3 mL/kg	Oral Mouse LD50: 2500 mg/kg
Dipropylene glycol diacrylate	Oral Rat LD50: 4600 mg/kg	Dermal Rabbit LD50: >2 gm/kg
Ethoxylated (3) Trimethylolpropane Triacrylate	Dermal Rabbit LD50: >13 gm/kg	
Formaldehyde...%	Inhalation Rat LC50/2H h: 250 ppm Oral Mouse LD50: 500 mg/kg Dermal Rabbit LD50: 270 mg/kg	Oral Rat LD50: 500 mg/kg Inhalation Mouse LC50/2H h: 505 mg/m3
Hexane-1,6-diol diacrylate	Oral Rat LD50: 5 gm/kg	Dermal Rabbit LD50: 3600 uL/kg

SECTION 12: Ecological information

12.1. Toxicity

4,4'-Isopropylidenediphenol	Green algae EC50/96h: 3.1 Fathead minnows LC50/96h: 4.6	Daphnia LC50/48h: 10.2
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Further information

	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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SECTION 13: Disposal considerations

General information

	Dispose of in compliance with all local and national regulations.
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SECTION 14: Transport information

14.1. UN number

	The product is not classified as dangerous for carriage.
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14.2. UN proper shipping name

	The product is not classified as dangerous for carriage.
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14.3. Transport hazard class(es)

	The product is not classified as dangerous for carriage.
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14.4. Packing group

	The product is not classified as dangerous for carriage.
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14.5. Environmental hazards

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

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

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

	The product is not classified as dangerous for carriage.
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SECTION 15: Regulatory information

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

Regulations	This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and
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15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Further information

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Other information

Revision	<p>This document differs from the previous version in the following areas:.</p> <ul style="list-style-type: none"> 1 - Product Use. 2 - 2.1.2. Classification - EC 1272/2008. 2 - Hazard pictograms. 2 - Signal Word. 2 - Precautionary Statement: Prevention. 2 - Precautionary Statement: Response. 2 - Precautionary Statement: Disposal. 12 - 12.1. Toxicity.
Text of risk phrases in Section 3	<p>R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed. R34 - Causes burns. R36/37/38 - Irritating to eyes, respiratory system and skin. R36/38 - Irritating to eyes and skin. R36 - Irritating to eyes. R37 - Irritating to respiratory system. R38 - Irritating to skin. R40 - Limited evidence of a carcinogenic effect. R41 - Risk of serious damage to eyes. R43 - May cause sensitisation by skin contact. R52 - Harmful to aquatic organisms. R62 - Possible risk of impaired fertility.</p>
Text of Hazard Statements in Section 3	<p>Skin Irrit. 2: H315 - Causes skin irritation. Skin Sens. 1: H317 - May cause an allergic skin reaction. Eye Dam. 1: H318 - Causes serious eye damage. STOT SE 3: H335 - May cause respiratory irritation. Repr. 2: H361f - Suspected of damaging fertility. Eye Irrit. 2: H319 - Causes serious eye irritation. Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.</p>

Further information

	<p>The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.</p>
HMIS LABELLING	<p>All components are TSCA compliant. HEALTH 1, FLAMMABILITY 0, PERSONAL PROTECTION : C. PHYSICAL HAZARD 0.</p>