

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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THERMOSTAR UV SCREEN INK

Revision 5

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 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; R36/37/38-43 R52/53 Symbols: Xi: Irritant.
Main hazards	Irritating to eyes, respiratory system and skin. May cause sensitisation by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
2.1.2. Classification - EC 1272/2008	Skin Irrit. 2: H315; Skin Sens. 1: H317; Eye Dam. 1: H318; STOT SE 3: H335; Repr. 2: H361f; Aquatic Chronic 2: H411;

2.2. Label elements

Hazard pictograms	
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2.2. Label elements

Signal Word	Danger
Hazard Statement	Skin Irrit. 2: H315 - Causes skin irritation. Skin Sens. 1: H317 - May cause an allergic skin reaction. Eye Dam. 1: H318 - Causes serious eye damage. STOT SE 3: H335 - May cause respiratory irritation. Repr. 2: H361f - Suspected of damaging fertility. Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Precautionary Statement: Prevention	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash 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. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary Statement: Response	P302+P352 - IF ON SKIN: Wash with plenty of water/ . P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - IF exposed or concerned: Get medical advice/attention. P310 - Immediately call a POISON CENTER/doctor/ . P312 - Call a POISON CENTER/doctor/ /if you feel unwell. 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. P391 - Collect spillage.
Precautionary Statement: Storage	P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up.
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.
Octylacrylate		2499-59-4			1 - 10%	Xi; R36/37/38 N; R51/53	
Decacrylate		2156-96-9			1 - 10%	Xi; R36/37/38 N; R51/53	
Acrylate					30 - 40%	Xi; R36/37/38	
4,4'-Isopropylidenediphenol	604-030-00-0	80-05-7	201-245-8		1 - 10%	Repr. Cat. 3; R62 Xi; R37-41 R43 R52	
2-ethylhexyl 4-(dimethylamino)benzoate		21245-02-3			1 - 10%	R53	
2-Benzyl-2-dimethylamino-4-morpholinobutyrophenone	606-047-00-9	119313-12-1	404-360-3		1 - 10%	N; R50/53	
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	

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3.2. Mixtures

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
Octylacrylate		2499-59-4			1 - 10%	Skin Irrit. 2: H315; Eye Irrit. 2: H319; STOT SE 3: H335; Aquatic Chronic 2: H411;	
Decacrylate		2156-96-9			1 - 10%	Skin Irrit. 2: H315; Eye Irrit. 2: H319; STOT SE 3: H335; Aquatic Chronic 2: H411;	
Acrylate					30 - 40%	Skin Irrit. 2: H315; Eye Irrit. 2: H319; STOT SE 3: H335;	
4,4'-Isopropylidenediphenol	604-030-00-0	80-05-7	201-245-8		1 - 10%	Repr. 2: H361f; STOT SE 3: H335; Eye Dam. 1: H318; Skin Sens. 1: H317;	
2-ethylhexyl 4-(dimethylamino)benzoate		21245-02-3			1 - 10%	Aquatic Chronic 4: H413;	
2-Benzyl-2-dimethylamino-4-morpholinobutyrophenone	606-047-00-9	119313-12-1	404-360-3		1 - 10%	Aquatic Acute 1: H400; Aquatic Chronic 1: H410;	

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

Inhalation	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.

6.4. Reference to other sections

For disposal see section 13.

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.

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.

7.3. Specific end use(s)

Apply a barrier cream before handling the product. Avoid contact with eyes. Avoid contact with skin.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Exposure Limit Values

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

8.2. Exposure controls

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	Insoluble in water

SECTION 10: Stability and reactivity

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10.1. Reactivity

Stable.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No Significant Hazard.

10.4. Conditions to avoid

No Significant Hazard.

10.5. Incompatible materials

No Significant Hazard.

10.6. Hazardous decomposition products

Burning produces obnoxious and irritating fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity May cause sensitisation by skin contact.

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
Decacrylate	Oral Rat LD50: 6460 mg/kg	Dermal Rabbit LD50: 6300 uL/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

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.

SECTION 13: Disposal considerations

General information

Dispose of in compliance with all local and national regulations.

SECTION 14: Transport information

14.1. UN number

The product is not classified as dangerous for carriage.

14.2. UN proper shipping name

The product is not classified as dangerous for carriage.

14.3. Transport hazard class(es)

The product is not classified as dangerous for carriage.

14.4. Packing group

The product is not classified as dangerous for carriage.

14.5. Environmental hazards

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14.5. Environmental hazards

The product is not classified as dangerous for carriage.

14.6. Special precautions for user

The product is not classified as dangerous for carriage.

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.

Further information

The product is not classified as dangerous for carriage.

SECTION 15: Regulatory information

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

Regulations	This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
	COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Further information

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

SECTION 16: Other information

Other information

Revision	This document differs from the previous version in the following areas:. 1 - Product Use. 2 - 2.1.2. Classification - EC 1272/2008. 2 - Hazard pictograms. 2 - Precautionary Statement: Prevention. 2 - Precautionary Statement: Response. 12 - 12.1. Toxicity.
Text of risk phrases in Section 3	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. R37 - Irritating to respiratory system. R40 - Limited evidence of a carcinogenic effect. R41 - Risk of serious damage to eyes. R43 - May cause sensitisation by skin contact. R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R52 - Harmful to aquatic organisms. R53 - May cause long-term adverse effects in the aquatic environment. R62 - Possible risk of impaired fertility.
Text of Hazard Statements in Section 3	Skin Irrit. 2: H315 - Causes skin irritation. Eye Irrit. 2: H319 - Causes serious eye irritation. STOT SE 3: H335 - May cause respiratory irritation. Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects. Skin Sens. 1: H317 - May cause an allergic skin reaction. Eye Dam. 1: H318 - Causes serious eye damage. Repr. 2: H361f - Suspected of damaging fertility. Aquatic Chronic 4: H413 - May cause long lasting harmful effects to aquatic life. Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.

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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>
	All components are TSCA compliant.
HMIS LABELLING	HEALTH 1, FLAMMABILITY 0, PERSONAL PROTECTION : C. PHYSICAL HAZARD 0.