

## SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

Page 1/6

### THERMOSTAR WATER BASED GRAVURE INK

Revision 3

Revision date 2015-05-05

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

##### 1.1. Product identifier

Product name	THERMOSTAR WATER BASED GRAVURE INK
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##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Description	Temperature sensitive, colour change ink.
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##### 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; R43 Symbols: Xi: Irritant.
Main hazards	May cause sensitisation by skin contact.
2.1.2. Classification - EC 1272/2008	Skin Sens. 1: H317; Eye Irrit. 2: H319;

##### 2.2. Label elements

Hazard pictograms	
Signal Word	Warning
Hazard Statement	Skin Sens. 1: H317 - May cause an allergic skin reaction. Eye Irrit. 2: H319 - Causes serious eye irritation.

## THERMOSTAR WATER BASED GRAVURE INK

Revision 3

Revision date 2015-05-05

## 2.2. Label elements

<b>Precautionary Statement: Prevention</b>	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.
<b>Precautionary Statement: Response</b>	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. P321 - Specific treatment (see on this label). P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention.
<b>Precautionary Statement: Disposal</b>	P501 - Dispose of contents/container to

## 2.3. Other hazards

<b>Other hazards</b>	No data available.
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## 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.
4,4'-Isopropylidenediphenol	604-030-00-0	80-05-7	201-245-8		1 - 10%	Repr. Cat. 3; R62 Xi; R37-41 R43 R52	
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.
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;	
Formaldehyde...%	605-001-00-5	50-00-0	200-001-8		0 - 0.5%	Carc. 1B: H350; Muta. 2: H341; Acute Tox. 3: H331; Acute Tox. 3: H311; Acute Tox. 3: H301; Skin Corr. 1B: H314; Skin Sens. 1: H317;	

Refer to Section 3.1.

## SECTION 4: First aid measures

## 4.1. Description of first aid measures

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

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

<b>Inhalation</b>	Irritant, moderate respiratory.
<b>Eye contact</b>	Irritating to eyes.
<b>Skin contact</b>	May cause sensitisation by skin contact. Avoid contact with skin.
<b>Ingestion</b>	Ingestion may cause nausea and vomiting.

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

<b>Inhalation</b>	Coughing, difficulty in breathing.
<b>Eye contact</b>	Irritating to eyes. Seek medical attention if irritation or symptoms persist.

# THERMOSTAR WATER BASED GRAVURE INK

Revision 3

Revision date 2015-05-05

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

Skin contact	May cause sensitisation by skin contact.
Ingestion	If you feel unwell, seek medical advice (show the label where possible). Ingestion may cause nausea and vomiting.

## 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)

	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.
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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1. Exposure Limit Values

# THERMOSTAR WATER BASED GRAVURE INK

Revision 3

Revision date 2015-05-05

## 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
Initial boiling point	100
Flash point	Not applicable.
Viscosity	30
Solubility	Miscible in water

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

	No data available.
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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

	Protect from frost.
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### 10.5. Incompatible materials

	Alkalis.
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### 10.6. Hazardous decomposition products

	Formaldehyde may be generated and other harmful fumes.
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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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## THERMOSTAR WATER BASED GRAVURE INK

Revision 3

Revision date 2015-05-05

## 11.1. Information on toxicological effects

Acute toxicity	May cause sensitisation by skin contact.
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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
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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## 12.2. Persistence and degradability

	No data is available on this product.
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## 12.3. Bioaccumulative potential

	No data is available on this product.
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## 12.4. Mobility in soil

	No data is available on this product.
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## 12.5. Results of PBT and vPvB assessment

	No data is available on this product.
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## 12.6. Other adverse effects

	No data is available on this product.
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## SECTION 13: Disposal considerations

## 13.1. Waste treatment methods

	Absorb with inert, absorbent material.
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## General information

	Dispose of in compliance with all local and national regulations.
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## Disposal methods

	Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
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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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## THERMOSTAR WATER BASED GRAVURE INK

Revision 3

Revision date 2015-05-05

## 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

<b>Regulations</b>	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.
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## 15.2. Chemical safety assessment

	For this product a chemical safety assessment was not carried out.
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**SECTION 16: Other information**

## Other information

<b>Revision</b>	This document differs from the previous version in the following areas:. 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. 9 - 9.1. Information on basic physical and chemical properties (Initial boiling point). 9 - 9.1. Information on basic physical and chemical properties (Flash point). 9 - 9.1. Information on basic physical and chemical properties (Solubility). 12 - 12.1. Toxicity.
<b>Text of risk phrases in Section 3</b>	R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed. R34 - Causes burns. 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. R52 - Harmful to aquatic organisms. R62 - Possible risk of impaired fertility.
<b>Text of Hazard Statements in Section 3</b>	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.

## Further information

	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.
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**HMIS LABELLING**

	HEALTH 1, FLAMMABILITY 0, PHYSICAL HAZARD 0. PERSONAL PROTECTION: E.
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