

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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HYDROCHROMIC SOLVENT BASED FLEXO INK

Revision 3

Revision date 2015-05-14

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

1.1. Product identifier

Product name HYDROCHROMIC SOLVENT BASED FLEXO INK

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

Description Water sensitive colour changing ink.

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

Intended use

Manufacture of colour change inks and coatings.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification - 1999/45/EC	Xi; R36/37/38 N; R51/53 R10-66-67 Symbols: Xi: Irritant. N: Dangerous for the environment.
Main hazards	Flammable. Irritating to eyes, respiratory system and skin. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.
2.1.2. Classification - EC 1272/2008	Flam. Liq. 2: H225; Skin Irrit. 2: H315; Eye Irrit. 2: H319; STOT SE 3: H335; STOT SE 3: H336; Aquatic Chronic 2: H411;

2.2. Label elements

Hazard pictograms



Signal Word

Danger

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2.2. Label elements

Hazard Statement	<p>Flam. Liq. 2: H225 - Highly flammable liquid and vapour. Skin Irrit. 2: H315 - Causes skin irritation. Eye Irrit. 2: H319 - Causes serious eye irritation. STOT SE 3: H335 - May cause respiratory irritation. STOT SE 3: H336 - May cause drowsiness or dizziness. Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.</p>
Precautionary Statement: Prevention	<p>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 - Keep container tightly closed. P240 - Ground/bond container and receiving equipment. P241 - Use explosion-proof electrical/ventilating/lighting// equipment. P242 - Use only non-sparking tools. P243 - Take precautionary measures against static discharge. P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection.</p>
Precautionary Statement: Response	<p>P302+P352 - IF ON SKIN: Wash with plenty of water/ . P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. 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. P337+P313 - If eye irritation persists: Get medical advice/attention. P370+P378 - In case of fire: Use to extinguish. P391 - Collect spillage.</p>
Precautionary Statement: Storage	<p>P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P403+P235 - Store in a well-ventilated place. Keep cool. P405 - Store locked up.</p>
Precautionary Statement: Disposal	<p>P501 - Dispose of contents/container to</p>

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.
Isopropanol	603-117-00-0	67-63-0	200-661-7		20 - 30%	F; R11 Xi; R36 R67	
HYDROCHROMIC PIGMENT					20 - 30%	Xi; R36/37/38	
HYDROCHROMIC PIGMENT B					20 - 30%	Xn; R22 Xi; R36 N; R50/53	M=1
Ethyl acetate	607-022-00-5	141-78-6	205-500-4		10 - 20%	F; R11 Xi; R36 R66 R67	

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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.
Isopropanol	603-117-00-0	67-63-0	200-661-7		20 - 30%	Flam. Liq. 2: H225; Eye Irrit. 2: H319; STOT SE 3: H336;	
HYDROCHROMIC PIGMENT					20 - 30%	Skin Irrit. 2: H315; Eye Irrit. 2: H319; STOT SE 3: H335;	
HYDROCHROMIC PIGMENT B					20 - 30%	Acute Tox. 4: H302; Eye Irrit. 2: H319; Aquatic Acute 1: H400; Aquatic Chronic 1: H410;	M=1
Ethyl acetate	607-022-00-5	141-78-6	205-500-4		10 - 20%	Flam. Liq. 2: H225; Eye Irrit. 2: H319; STOT SE 3: H336;	

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	If you feel unwell, seek medical advice (show the label where possible). If unconscious, check for breathing and apply artificial respiration if necessary.
Eye contact	Seek medical attention if irritation or symptoms persist.
Skin contact	Seek medical attention if irritation or symptoms persist.
Ingestion	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

	Self-contained breathing apparatus. Wear protective clothing.
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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. Eliminate all sources of ignition. Evacuate personnel to a safe area.
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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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Use explosion proof equipment. Keep away from sources of ignition - No smoking.

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)

Use only in well-ventilated areas.

Suitable packaging

Plastic containers.

Further information

When using do not eat, drink or smoke.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Exposure Limit Values

Ethyl acetate	WEL 8-hr limit ppm: 200	WEL 8-hr limit mg/m3: -
	WEL 15 min limit ppm: 400	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:
Isopropanol	WEL 8-hr limit ppm: 400	WEL 8-hr limit mg/m3: 999
	WEL 15 min limit ppm: 500	WEL 15 min limit mg/m3: 1250
	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 when necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Various colours according to type.
Odour	Strong
Flash point	22
Flammability (solid, gas)	Flammable
Relative density	0.95 - 1
Solubility	Slightly soluble in water

9.2. Other information

VOC (Volatile organic compounds)	500
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Water solubility

	Slightly soluble in water.
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SECTION 10: Stability and reactivity

10.1. Reactivity

	Avoid sparks, flames, heat and sources of ignition.
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10.2. Chemical stability

	Stable under normal conditions.
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10.3. Possibility of hazardous reactions

	Oxidising agents.
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10.4. Conditions to avoid

	Heat, sparks and open flames.
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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

11.1.4. Toxicological Information

Ethyl acetate	Oral Rat LD50: 5620 mg/kg Inhalation Mouse LC50/2H h: 45 gm/m3	Oral Mouse LD50: 4100 mg/kg Dermal Rabbit LD50: >20 mL/kg
HYDROCHROMIC PIGMENT B	Oral Rat LD50: 794 mg/kg	Oral Mouse LD50: 287 mg/kg
Isopropanol	Oral Rat LD50: 5000 mg/kg Dermal Rabbit LD50: 12800 mg/kg	Oral Mouse LD50: 3600 mg/kg

SECTION 12: Ecological information

12.1. Toxicity

HYDROCHROMIC PIGMENT B	Fish LC50/96h: 0.5500 mg/l
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	May cause long-term adverse effects in the aquatic environment.
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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.

12.6. Other adverse effects

Very toxic to aquatic organisms.

SECTION 13: Disposal considerations**General information**

Dispose of in compliance with all local and national regulations.

SECTION 14: Transport information**Hazard pictograms****14.1. UN number**

UN1210

14.2. UN proper shipping name

PRINTING INK

14.3. Transport hazard class(es)

ADR/RID	3
Subsidiary risk	-
IMDG	3
Subsidiary risk	-
IATA	3
Subsidiary risk	-

14.4. Packing group

Packing group	II
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14.5. Environmental hazards

Environmental hazards	Yes
Marine pollutant	Yes

ADR/RID

Hazard ID	33
Tunnel Category	(D/E)

IMDG

EmS Code	F-E S-D
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IATA

Packing Instruction (Cargo)	364
Maximum quantity	60 L
Packing Instruction (Passenger)	353
Maximum quantity	5 L

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,

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

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:.

- 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: Storage.
- 2 - Precautionary Statement: Disposal.
- 4 - Skin contact.
- 4 - Eye contact.
- 4 - Inhalation.
- 4 - Ingestion.
- 4 - Inhalation.
- 4 - Eye contact.
- 4 - Skin contact.
- 4 - Ingestion.
- 4 - Inhalation.
- 4 - Eye contact.
- 4 - Skin contact.
- 4 - Ingestion.
- 6 - 6.4. Reference to other sections.
- 7 - Suitable packaging.
- 7 - 7.3. Specific end use(s).
- 7 - Further information.
- 9 - 9.1. Information on basic physical and chemical properties (Flash point).
- 9 - 9.1. Information on basic physical and chemical properties (Flammability (solid, gas)).
- 9 - 9.1. Information on basic physical and chemical properties (Relative density).
- 9 - 9.1. Information on basic physical and chemical properties (Solubility).
- 9 - 9.2. Other information (Product Subcategory).
- 10 - 10.6. Hazardous decomposition products.
- 10 - 10.1. Reactivity.
- 10 - 10.5. Incompatible materials.
- 12 - 12.1. Toxicity.
- 12 - 12.4. Mobility in soil.
- 12 - 12.2. Persistence and degradability.
- 12 - 12.3. Bioaccumulative potential.
- 12 - 12.5. Results of PBT and vPvB assessment.
- 15 - Regulations.
- 16 - Maximum content of VOC.

Text of risk phrases in Section 3

R11 - Highly flammable.
 R22 - Harmful if swallowed.
 R36/37/38 - Irritating to eyes, respiratory system and skin.
 R36 - Irritating to eyes.
 R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R66 - Repeated exposure may cause skin dryness or cracking.

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Other information	
Text of Hazard Statements in Section 3	R67 - Vapours may cause drowsiness and dizziness.
	Flam. Liq. 2: H225 - Highly flammable liquid and vapour. Eye Irrit. 2: H319 - Causes serious eye irritation. STOT SE 3: H336 - May cause drowsiness or dizziness. Skin Irrit. 2: H315 - Causes skin irritation. STOT SE 3: H335 - May cause respiratory irritation. Acute Tox. 4: H302 - Harmful if swallowed. Aquatic Acute 1: H400 - Very toxic to aquatic life. Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects. EUH066 - Repeated exposure may cause skin dryness or cracking.
Maximum content of VOC	500.
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.