

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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MC520-7

Revision 3

Revision date 2015-07-07

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

1.1. Product identifier

Product name MC520-7

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

Description Temperature indicating colour change paint.

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	chris@t-m-c.com

1.4. Emergency telephone number

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

Intended use

For professional use only in scientific research and development. Temperature measurement and thermal mapping.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification - 1999/45/EC Xn; R20/21 Xi; R38 R10
Symbols: Xn: Harmful.

Main hazards Flammable. Harmful by inhalation and in contact with skin. Irritating to skin.

2.1.2. Classification - EC 1272/2008 Flam. Liq. 3: H226; Skin Irrit. 2: H315; Skin Sens. 1: H317; Eye Irrit. 2: H319;

2.2. Label elements

Hazard pictograms



Signal Word

Warning

Hazard Statement

Flam. Liq. 3: H226 - Flammable liquid and vapour.

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2.2. Label elements

Precautionary Statement: Prevention	Skin Irrit. 2: H315 - Causes skin irritation. Skin Sens. 1: H317 - May cause an allergic skin reaction. Eye Irrit. 2: H319 - Causes serious eye irritation.
	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. 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/ . P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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). P332+P313 - If skin irritation occurs: Get medical advice/attention. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P370+P378 - In case of fire: Use to extinguish.
Precautionary Statement: Storage	P403+P235 - Store in a well-ventilated place. Keep cool.
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.
Xylene	601-022-00-9	1330-20-7	215-535-7	01-2119488216-32	20 - 30%	R10 Xn; R20/21 Xi; R38	
MC520-7 Cobalt based pigment					10 - 20%	Xn; R21/22 Xi; R36	
2-methoxy-1-methylethyl acetate	607-195-00-7	108-65-6	203-603-9	01-2194759129-00	10 - 20%	R10	
Ethylbenzene	601-023-00-4	100-41-4	202-849-4	01-2119489370-00	1 - 10%	F; R11 Xn; R20	

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
Xylene	601-022-00-9	1330-20-7	215-535-7	01-2119488216-32	20 - 30%	Flam. Liq. 3: H226; Acute Tox. 4: H332; Acute Tox. 4: H312; Skin Irrit. 2: H315;	
MC520-7 Cobalt based pigment					10 - 20%	Acute Tox. 4: H302; Acute Tox. 4: H312; Skin Sens. 1: H317; Eye Irrit. 2: H319;	
2-methoxy-1-methylethyl acetate	607-195-00-7	108-65-6	203-603-9	01-2194759129-00	10 - 20%	Flam. Liq. 3: H226;	
Ethylbenzene	601-023-00-4	100-41-4	202-849-4	01-2119489370-00	1 - 10%	Flam. Liq. 2: H225; Acute Tox. 4: H332;	

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move the exposed person to fresh air. Seek medical attention.
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4.1. Description of first aid measures

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	Ingestion is irritating to the respiratory tract and may cause damage to the central nervous system. DO NOT INDUCE VOMITING. If swallowed, seek medical advice immediately and show this container or label.

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

Inhalation	Harmful by inhalation. Inhalation may cause nausea and vomiting. May cause dizziness and headache.
Eye contact	May cause irritation to eyes.
Skin contact	May cause irritation to skin. May cause dermatitis.
Ingestion	Harmful if swallowed.

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

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	Seek medical attention if irritation or symptoms persist.
Ingestion	If swallowed, seek medical advice immediately and show this container or label.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

	Use as appropriate: Carbon dioxide (CO ₂), Dry chemical, Foam.
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5.2. Special hazards arising from the substance or mixture

	Burning produces irritating, toxic and obnoxious fumes. Vapour may travel considerable distance to source of ignition and flash back.
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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. Eliminate all sources of ignition. 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. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water.
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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. Use explosion proof equipment. Keep away from sources of ignition - No smoking. 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.
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7.3. Specific end use(s)

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7.3. Specific end use(s)

Do not spray on naked flame or any other incandescent material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Exposure Limit Values

2-methoxy-1-methylethyl acetate	WEL 8-hr limit ppm: 50 WEL 15 min limit ppm: 100 WEL 8-hr limit mg/m3 total inhalable dust: - WEL 8-hr limit mg/m3 total respirable dust: -	WEL 8-hr limit mg/m3: 274 WEL 15 min limit mg/m3: 548 WEL 15 min limit mg/m3 total inhalable dust: - WEL 15 min limit mg/m3 total respirable dust: -
Ethylbenzene	WEL 8-hr limit ppm: 100 WEL 15 min limit ppm: 125 WEL 8-hr limit mg/m3 total inhalable dust: - WEL 8-hr limit mg/m3 total respirable dust: -	WEL 8-hr limit mg/m3: 441 WEL 15 min limit mg/m3: 552 WEL 15 min limit mg/m3 total inhalable dust: - WEL 15 min limit mg/m3 total respirable dust: -
Xylene	WEL 8-hr limit ppm: 50 WEL 15 min limit ppm: 100 WEL 8-hr limit mg/m3 total inhalable dust: - WEL 8-hr limit mg/m3 total respirable dust: -	WEL 8-hr limit mg/m3: 220 WEL 15 min limit mg/m3: 441 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	Self-contained breathing apparatus. Wear protective clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Purple / mauve
Odour	Mild
Flash point	30
Relative density	1.23

Water solubility

Slightly miscible in water.

SECTION 10: Stability and reactivity

10.1. Reactivity

Avoid sparks, flames, heat and sources of ignition.

10.2. Chemical stability

Stable under normal conditions.

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10.3. Possibility of hazardous reactions

Oxidising agents.

10.4. Conditions to avoid

Heat, sparks and open flames.

10.5. Incompatible materials

Oxidising agents.

10.6. Hazardous decomposition products

Burning produces obnoxious and irritating fumes.

SECTION 11: Toxicological information

11.1.4. Toxicological Information

2-methoxy-1-methylethyl acetate	Oral Rat LD50: 8532 mg/kg	Dermal Rabbit LD50: >5 gm/kg
Ethylbenzene	Inhalation Rat LC50/2H h: 55000 mg/m ³	Oral Rat LD50: 3500 mg/kg
	Inhalation Mouse LC50/2H h: 35500 mg/m ³	Dermal Rabbit LD50: 17800 uL/kg
Xylene	Inhalation Rat LC50/4H h: 5000 ppm	Oral Rat LD50: 4300 mg/kg
	Oral Mouse LD50: 2119 mg/kg	Dermal Rabbit LD50: >1700 mg/kg

Further information

Cobalt salts are regarded as being toxic by ingestion and may cause mutagenic and teratogenic effects. Cobalt was classified as Group 2 by IARC in June 2009 as possibly carcinogenic to humans. No LD50 ascribed but Cobalt salts vary between 400 & 6000 mg/kg.

SECTION 12: Ecological information

Further information

An environmental hazard cannot be eliminated in the event of unprofessional handling or disposal. Do not allow product to enter drains.

SECTION 13: Disposal considerations

General information

Dispose of in compliance with all local and national regulations.

Disposal methods

Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

SECTION 14: Transport information

Hazard pictograms



14.1. UN number

UN1263

14.2. UN proper shipping name

PAINT

14.3. Transport hazard class(es)

ADR/RID

3

Subsidiary risk

-

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14.3. Transport hazard class(es)

IMDG	3
Subsidiary risk	-
IATA	3
Subsidiary risk	-

14.4. Packing group

Packing group	III
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14.5. Environmental hazards

Environmental hazards	No
Marine pollutant	No

ADR/RID

Hazard ID	33
Tunnel Category	(D/E)

IMDG

EmS Code	F-E S-E
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IATA

Packing Instruction (Cargo)	366
Maximum quantity	220 L
Packing Instruction (Passenger)	355
Maximum quantity	60 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, 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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Further information

	For this product a chemical safety assessment was not carried out.
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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. 12 - 12.1. Toxicity.
Text of risk phrases in Section 3	R10 - Flammable R11 - Highly flammable. R20/21 - Harmful by inhalation and in contact with skin. R20 - Harmful by inhalation. R21/22 - Harmful in contact with skin and if swallowed.

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Other information

Text of Hazard Statements in Section 3	R36 - Irritating to eyes. R38 - Irritating to skin.
	Flam. Liq. 3: H226 - Flammable liquid and vapour. Acute Tox. 4: H312 - Harmful in contact with skin. Skin Irrit. 2: H315 - Causes skin irritation. Acute Tox. 4: H332 - Harmful if inhaled. Acute Tox. 4: H302 - Harmful if swallowed. Skin Sens. 1: H317 - May cause an allergic skin reaction. Eye Irrit. 2: H319 - Causes serious eye irritation. Flam. Liq. 2: H225 - Highly flammable liquid and vapour.

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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