

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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40°C HEAT SENSITIVE POWDER

Revision 2

Revision date 2015-06-12

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

1.1. Product identifier

Product name	40°C HEAT SENSITIVE POWDER
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1.2. Relevant identified uses of the substance or mixture and uses advised against

Product Use	[SU3] Industrial uses: Uses of substances as such or in preparations at industrial sites; [SU24] Scientific research and development;
Description	Thermochromic pigment.

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

	Manufacture of temperature indicating devices. For professional use only in research and development.
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification - 1999/45/EC	T; R49 Xn; R22-42/43 N; R50/53 Symbols: T: Toxic. N: Dangerous for the environment.
Main hazards	Harmful if swallowed. May cause sensitisation by inhalation and skin contact. May cause cancer by inhalation. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
2.1.2. Classification - EC 1272/2008	Acute Tox. 4: H302; Skin Sens. 1: H317; Resp. Sens. 1: H334; Aquatic Chronic 1: H410;


2.2. Label elements

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2.2. Label elements

Hazard pictograms	
Signal Word	Danger
Hazard Statement	Acute Tox. 4: H302 - Harmful if swallowed. Skin Sens. 1: H317 - May cause an allergic skin reaction. Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.
Precautionary Statement: Prevention	P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. 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. P284 - [In case of inadequate ventilation] wear respiratory protection.
Precautionary Statement: Response	P301+P312 - IF SWALLOWED: Call a POISON CENTER/doctor/ /if you feel unwell. P302+P352 - IF ON SKIN: Wash with plenty of water/ . P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P321 - Specific treatment (see on this label). P330 - Rinse mouth. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER/doctor/ . P391 - Collect spillage.
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.
40C Cobalt Based Pigment					70 - 80%	T; R49 Xn; R22-42/43 N; R50/53	

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
40C Cobalt Based Pigment					70 - 80%	Acute Tox. 4: H302; Skin Sens. 1: H317; Resp. Sens. 1: H334; Aquatic Chronic 1: H410;	

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Toxic by inhalation. Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system. Inhalation of vapour may cause shortness of breath. Move the exposed person to fresh air. Seek medical attention.
Eye contact	May cause irritation to eyes. Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.
Skin contact	Toxic in contact with skin. Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention.
Ingestion	Toxic if swallowed. Ingestion is irritating to the respiratory tract and may cause damage to the central nervous system. If swallowed, seek medical advice immediately and show this container or label. DO NOT INDUCE VOMITING.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Use as appropriate: Carbon dioxide (CO2), Dry chemical, Foam.

5.2. Special hazards arising from the substance or mixture

Burning produces irritating, toxic and obnoxious fumes.

5.3. Advice for firefighters

Wear: Self-contained breathing apparatus. Wear chemical protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation of the working area. Evacuate personnel to a safe area. Wear suitable protective equipment.

6.2. Environmental precautions

Do not allow product to enter drains. Prevent further spillage if safe.

6.3. Methods and material for containment and cleaning up

Sweep up. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes and skin. Ensure adequate ventilation of the working area.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a cool, dry, well ventilated area. Keep containers tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Exposure Limit Values

40C Cobalt Based Pigment	WEL 8-hr limit ppm:	WEL 8-hr limit mg/m3:
	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:

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 must be used in handling.

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	Powder
Colour	Pink

SECTION 10: Stability and reactivity

10.2. Chemical stability

	Stable under normal conditions.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	May cause cancer.
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11.1.4. Toxicological Information

	Caution - substance not yet fully tested.
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Further information

	<p>Inhalation of Cobalt bearing mists or dusts can result in Chronic pulmonary effects, it may cause damage to the kidneys, nervous and cardiovascular systems. Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyperresponsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyperresponsiveness, but which do not include the disease themselves.</p> <p>The latter substances are not classified asthmagens or respiratory sensitisers. Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable.</p> <p>Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance.</p> <p>Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagens? Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma.</p> <p>Capable of causing cancer and/or heritable genetic damage. The identified substances include those which: - are assigned the risk phrases 'R45: May cause cancer'; 'R46: may cause heritable genetic damage'; 'R49: May cause cancer by inhalation' or - a substance or process listed in Schedule 1 of COSHH.</p> <p>Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used Carcinogenic applies for cobalt dichloride and sulphate. The 'Sen' notation in the list of WELs has been assigned only to substances which may cause occupational asthma.</p>
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SECTION 12: Ecological information

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12.1. Toxicity

	May cause long-term adverse effects in the aquatic environment.
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Further information

	Very toxic 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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Disposal methods

	Do not empty into drains; dispose of this material and its container in a safe way.
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SECTION 14: Transport information

Hazard pictograms

	
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14.1. UN number

	UN2811
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14.2. UN proper shipping name

	TOXIC SOLID, ORGANIC, N.O.S. (Organic Cobalt Derivative)
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14.3. Transport hazard class(es)

ADR/RID	6.1
Subsidiary risk	-
IMDG	6.1
Subsidiary risk	-
IATA	6.1
Subsidiary risk	-

14.4. Packing group

Packing group	II
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14.5. Environmental hazards

Environmental hazards	No
Marine pollutant	No

ADR/RID

Hazard ID	60
Tunnel Category	(D/E)

IMDG

EmS Code	F-A S-A
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IATA

Packing Instruction (Cargo)	676
Maximum quantity	100 kg
Packing Instruction (Passenger)	669
Maximum quantity	25 kg

SECTION 15: Regulatory information

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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. 9 - 9.1. Information on basic physical and chemical properties (Odour). 11 - Further information. 12 - 12.1. Toxicity.
Text of risk phrases in Section 3	<ul style="list-style-type: none"> R22 - Harmful if swallowed. R42/43 - May cause sensitisation by inhalation and skin contact. R49 - May cause cancer by inhalation. R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Text of Hazard Statements in Section 3	<ul style="list-style-type: none"> Acute Tox. 4: H302 - Harmful if swallowed. Skin Sens. 1: H317 - May cause an allergic skin reaction. Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.

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>
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