



Product
Supersedes: None

FORMALDEHYDE SOLUTION M
Version: 1

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

FORMALDEHYDE SOLUTION M

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

Uses: Chemical intermediate; Resin manufacture
Not to be used for: None specified

1.3. Details of the supplier of the safety data sheet

Company Identification Synthite Ltd
Address and Telephone No. Alyn Works
Denbigh Road
MOLD
Flintshire
CH7 1BT
UK
Tel: 01352 752521
Regulatory Department
Contact e-mail: reach@synthite.co.uk

1.4. Emergency telephone number

01865 407333 (International +44 1865 407333)

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification	DPD Classification
Acute Toxicity Category 3 - H301, H311, H331 Skin Corrosive Category 1B - H314 Skin Sensitizer Category 1 - H317 STOT SE Category 2 - H371 STOT SE Category 3 - H335 Carcinogen Category 2 - H351	Toxic - 23/24/25 - 34 - 68/20/21/22 -40 - 43
For full wording of Hazard statements see Section 16	For full wording of Risk phrases see Section 16

2.2. Label elements

Contains Formaldehyde and Methanol

DANGER



H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H371 - May cause damage to organs
H335 - May cause respiratory irritation



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H351 - Suspected of causing cancer

P201 - Obtain special instructions before use

P270 - Do not eat, drink or smoke when using this product.

P271 - Use only outdoors or in a well-ventilated area.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

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 attention.

2.3. Other hazards

Does not fulfil the criteria for classification as PBT or vPvB.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Hazardous component(s)

Under CLP EC1272/2008

Ingredient	CAS Number/ EC Number	REACH Registration Number	%	CLP Hazard Category	H-Statements
Formaldehyde	50-00-0 / 200-001-8	01-2119488953- 20-0009	30 - 50	Acute Toxicity Category 3 Skin Corrosive Category 1B Skin Sensitizer Category 1A Carcinogen Category 2	H301, H311, H331 H314 H317 H351
Methanol *	67-56-1 / 200-659-6	01-2119433307- 44-0017	3 - < 10	Acute Toxicity Category 3 Flammable Liquid Category 2 STOT SE Category 1	H301, H311, H331 H225 H370

* Subject to EU exposure limit - See Section 8.

For full wording of H-statements see Section 16.

Under DPD EC1999/45

Ingredient	CAS Number/ EC Number	REACH Registration Number	%	Symbol	Risk Phrases
Formaldehyde	50-00-0 / 200-001-8	01-2119488953- 20-0009	30 - 50	T	23/24/25-34-40(C3)-43
Methanol *	67-56-1 / 200-659-6	01-2119433307- 44-0017	3 - < 10	F, T	11-23/24/25-39/23/24/25

* Subject to EU exposure limit - See Section 8.

For full wording of Risk phrases see Section 16.



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SECTION 4. FIRST-AID MEASURES

4.1. Description of first aid measures

Inhalation	Remove patient to fresh air, allow to rest and keep warm. If not breathing, give artificial respiration and seek medical attention.
Skin contact	Wash immediately with plenty of water. Remove any contaminated clothing and launder before reuse. If irritation persists or develops, seek medical attention.
Eye contact	Flush immediately with plenty of water for at least 15 minutes, keeping eyelids open and avoiding contamination of unaffected eye. Seek medical attention.
Ingestion	DO NOT induce vomiting! Rinse mouth out with water, but do not give anything to drink. Seek medical attention.
Personal precautions	Ensure that those giving first aid treatment do not get contaminated by product spills, etc. Wear suitable protective clothing, gloves and eye protection. See also Section 8 for details.

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

May cause allergic contact dermatitis reaction by skin contact. Can cause skin burns, severe eye irritation with permanent damage, burns to throat, nose and gastrointestinal tract and severe irritation of the respiratory tract.

Chronic Potential Health Effects:

Classified as a Category 2 carcinogen under CLP (Category 3 under CHIP/DSD) in the EU, mainly on grounds of inhalation experiments in animals.

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

Obtain medical attention if inhaled, ingested or in case of skin or eye contact.

SECTION 5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

- Suitable	Water spray or mist, alcohol resistant foam, carbon dioxide or dry powder.
- Not to be used	Water jet.

5.2. Special hazards arising from the substance or mixture

Alert fire brigade! Will burn if involved in a fire and give off noxious fumes (e.g formaldehyde and carbon oxides). Vapour is heavier than air and is an explosion hazard.

5.3. Advice for fire fighters

Self-contained breathing apparatus and protective clothing. Prevent fire fighting water entering watercourses or ground-water.



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SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Observe any warning labels on the container (see Sections 2 and 14). Wear suitable protective clothing, gloves, safety goggles.

6.2. Environmental precautions

Prevent from entering sewers or the immediate environment. In case of large spill, inform local police, local authority, water company, National Rivers Authority and/or fire brigade as appropriate.

6.3. Methods and material for containment and cleaning up

- on soil

Contain any spilled material immediately with dry agent (e.g. sand, earth, vermiculite, etc.), neutralise to hexamine if necessary with 5% ammonia, and vacuum or shovel carefully into labelled containers for disposal (See Section 13).

- on water

None known.

6.4. Reference to other sections

See Section 8 for details of protective equipment.
See Section 13 for details of disposal.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid contact with skin and eyes. Do not ingest or breathe vapours. Handle/weigh this product under conditions of good local exhaust ventilation to avoid breathing fumes or aerosol. If this is not possible, use personal protective equipment (See Section 8). Take precautionary measures against static discharges. Vapours may form explosive mixture with air. Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: Stainless steel 1.4301 (V2), High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4401, aluminium.

Unsuitable materials for containers: paper, board, glass. Keep in original containers. Store between 30-60°C, otherwise may polymerise (weaker solutions at lower end of scale, stronger solutions at higher end). Store in a well-ventilated place and replace lid after use. Avoid naked flames and other sources of ignition.

7.3. Specific end use(s)



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Chemical intermediate; Resin manufacture.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

	<u>Occupational Exposure Levels in mg/m³</u>		
	<u>8h -TWA</u>	<u>Short-term</u>	<u>Reference</u>
Formaldehyde	2.5	2.5 (15-min)	UK (MEL), Ireland, Greece
	0.37	1.2	Finland (ceiling)
	1.5	3 (15-min)	Holland
	0.6	-	Norway (ceiling), Sweden
	0.37	0.62 (15-min)	Germany
	0.37	0.74 (15 min)	Switzerland
	0.5	1.0 (15 min)	France
	0.4	-	Denmark (ceiling)
	0.37	-	US-ACGIH
	Methanol	266	333 (15-min)
260			EU (IOELV)
260		1300(15-min)	France
270		1080 (5-min)	Germany
260		-	Denmark (ceiling)
270		330 (15-min)	Finland
130		-	Norway (ceiling)
250		350(15 min)	Sweden (ceiling)
260		520 (15 min)	Holland
262		328 (15 min)	US-ACGIH

Monitoring procedures

None specified

Product data:

DNEL/PNEC not currently available

8.2. Exposure Controls

Recommended engineering controls

Ensure good ventilation. Arrange for eye wash possibility.

Personal protection

Always check applicability with your supplier of protective equipment.

- Respiratory protection
Personal exposure must be controlled to conform with local/national regulations (see above). If this is not possible, respiratory protection must be worn. Full face respirator conforming to EN141, Type A or self-contained breathing apparatus should be used.
- Skin protection
Chemical-protection suit (eg according to EN 14605)
- Eye protection
Tightly fitting safety goggles (splash goggles) (e.g. EN 166) or Full face visor.



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- Hand protection
Suitable materials for prolonged, direct contact
(Recommended: Protective index 6, corresponding to > 480 minutes of permeation time according to EN 374):
Butyl rubber (butyl) - 0.7 mm coating thickness
Nitrile rubber (NBR) - 0.4 mm coating thickness
Note: Break-through times can vary depending on thickness, use and source. Change gloves regularly.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Colourless liquid
Odour	Irritating, pungent
Odour Threshold Value	Not determined
pH (concentrated product)	2.5 - 5.5
Melting point (°C)	-15 approx
Boiling point/range (°C)	96 - 101
Flash point (°C)	63 - 75
Evaporation rate	Not determined
Flammability	Combustible liquid and vapour
Explosive properties/limits	Upper limit in air = 73% for formaldehyde gas Lower limit in air = 7% for formaldehyde gas Upper limit in air = 37% for methanol Lower limit in air = 6% for methanol
Vapour pressure (mm Hg at 35°C)	4.2 (Formaldehyde Partial Pressure)
Vapour density	Not determined
Density at 20°C (kg/m ³)	1080 - 1160
Solubility in water (% by weight)	Miscible in all proportions
Solubility in solvents	Soluble in ethanol, low in fatty type solvents
Partition coefficient (log K _{ow})	0.35, for formaldehyde gas -0.77, for methanol
Auto-ignition temperature (°C)	300
Decomposition temperature (°C)	400
Viscosity (mPa.s at 20°C)	1.0
Oxidising properties	None

9.2. Other information

Note: These are typical values and do not constitute a specification.

SECTION 10. STABILITY AND REACTIVITY

- 10.1. Reactivity
Stable under normal conditions of use and storage, but may polymerise at temperatures above 60°C.
- 10.2. Chemical stability
Stable under normal conditions of use.



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Supersedes: None

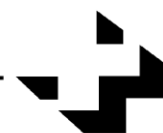
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10.3. Possibility of hazardous reactions	Reacts with strong oxidising agents. Vapour may react with hydrochloric acid to form bis-chloromethyl ether, a potent human carcinogen.
10.4. Conditions to avoid	Store between 30-60°C, otherwise may polymerise. Avoid naked flames and other sources of ignition (evolves flammable gas at elevated temperatures).
10.5. Incompatible materials	Strong oxidising agents. The solution may become discoloured on contact with metals and alloys containing zinc, iron, copper and nickel, which may become corroded.
10.6. Hazardous decomposition products	Formaldehyde (forms explosive mixture with air) may be evolved on heating, and carbon oxides may be released on burning or heating to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects	Data for active ingredients formaldehyde or methanol unless otherwise stated.
(a) acute toxicity Formaldehyde	LD ₅₀ (oral, rat): 100 mg/kg LD ₅₀ (dermal, rabbit): 270 mg/kg LC ₅₀ (inhalation, rat): 203 mg/m ³ Toxic if swallowed, in contact with skin or if inhaled. Can cause burns to throat, nose and gastrointestinal tract and severe irritation of the respiratory tract.
Methanol	LD ₅₀ (oral, rat): > 1187 - 2769 mg/kg LDLo (oral, human): 143 mg/kg Readily adsorbed by the gastrointestinal tract. LD50 (dermal, rabbit): approx 17100 mg/kg Readily adsorbed through the skin. LC50 (inhalation, rat): 128.2 mg/l/4 hour TCLo (inhalation, human): 300 ppm Readily adsorbed by inhalation.
(b) skin corrosion/irritation	Product can cause skin burns.
(c) serious eye damage/irritation	Product can cause severe eye irritation with permanent damage.
(d) respiratory or skin sensitisation	Products may cause allergic contact dermatitis reaction by skin contact (type IV immune reaction, acute and chronic skin sensitisation). Persons sensitised to formaldehyde should not handle this product.
(e) germ cell mutagenicity	Reason for no classification: conclusive evidence but not sufficient for classification.
(f) carcinogenicity	Product classified as a Category 2 carcinogen under CLP (Category 3 under CHIP/DSD) in the EU, mainly on grounds of inhalation experiments in animals that led to nasal cancer.



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	However, this is not proven in humans and there appears to be no definitive excess of lung cancer. Based on epidemiological evidence, no chronic adverse effects will be produced when working at below the UK WEL, although irritant effects may be experienced.
(g) reproductive toxicity	Reason for no classification: conclusive but not sufficient for classification.
(h) STOT-single exposure	May cause respiratory irritation. Methanol causes damage to organs, can cause blindness.
(i) STOT-repeated exposure	Reason for no classification: conclusive but not sufficient for classification.
(j) aspiration hazard	Reason for no classification: conclusive but not sufficient for classification.
Likely routes of exposure	Contact with skin and eyes or by inhalation of vapour.
Symptoms related to the physical, chemical and toxicological characteristics	May cause allergic contact dermatitis reaction by skin contact. Can cause skin burns, severe eye irritation with permanent damage, burns to throat, nose and gastrointestinal tract and severe irritation of the respiratory tract.
Delayed and immediate effects as well as chronic effects from short and long-term exposure	Classified as a Category 2 carcinogen under CLP (Category 3 under CHIP/DSD) in the EU, mainly on grounds of inhalation experiments in animals.
Other information	None

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

Data for active ingredient formaldehyde

- LC ₅₀ , Pimephales promelas, 96hr (mg/l)	24
- LC ₅₀ , Brachydanio rerio, 96hr (mg/l)	41
- EC ₅₀ , Daphnia magna, 48hr (mg/l)	approx 2
- EC ₅₀ , Daphnia magna, 24hr (mg/l)	42
- Bacterial toxicity: EC ₅₀ Photobacterium phosphoreum, 30min (mg/l)	8.5
- Activated sludge: EC ₂₀ Pseudomonas putida, 5hr (mg/l)	> 1,995

Formaldehyde exhibits a toxic effect on aquatic organisms, but is not officially classified as such. Not acutely toxic to vertebrate animals, but exerts activity against invertebrates, e.g. bacteria. Sludge decomposition can be impaired, but the inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

12.2. Persistence and degradability

Readily biodegradable



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MARPOL Category C, IBC Instruction IBC02

Modal information:

Land transport:

- Transport hazard label	ADR
- RID/ADR classification	Corrosive
- Packaging group	8
- HIN	III
- EAC	80
	2X (tanks only)

Maritime transport:

- Transport hazard label	IMDG
- IMO-IMDG class	Corrosive
- Packaging group	8
- EmS code(s)	III
- Marine Pollutant	FA, SB
	No

Air transport:

- Transport hazard label	ICAO/IATA
- ICAO/IATA classification	Corrosive
- Packing group	8
- ERG Code	III
- Packing Instructions	8i
- Packing Instructions	Y841, 852 (Passenger aircraft)
- Max. net qty/package	856 (Cargo aircraft)
	5 litres (1 Litre non-UN packs) (Passenger aircraft)
	60 litres (Cargo aircraft)

SECTION 15. REGULATORY INFORMATION

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

Control of Substances Hazardous to Health Regulations 2002

Health and safety at Work etc. Act 1974

Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

The Control of Major Accident Hazards Regulations 1999 SI743

15.2. Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out on this mixture.

SECTION 16. OTHER INFORMATION

Inventories - Formaldehyde and Methanol are listed in EINECS, TSCA and all other national inventories.

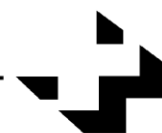
Sources of data used in this SDS

In-house data files

Literature such as Sax's Dangerous Properties of Industrial Materials, the RSC Dictionary of Substances and their Effects, RTECS

German KbWS

CLP Annex VI Tables 3.1 & 3.2



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Revisions marked with | in the left margin. Not applicable first issue.

Nature of revision Not applicable first issue.

R-phrases used in Sections 2 and 3

R11	Highly flammable
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R34	Causes burns
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed
R40(C3)	Limited evidence of a carcinogenic effect (Category 3)
R43	May cause sensitisation by skin contact
R68/20/21/22	Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed

H-statements used in Sections 2 and 3

H225	Highly flammable liquid and vapour
H370	Causes damage to organs
H371	May cause damage to organs
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H331	Toxic if inhaled
H351	Suspected of causing cancer

Based on EU Regulation 1907/2006 as amended by Regulation 453/2010

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

End of document

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