

SAFETY DATA SHEET

FORMALIN



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

1.1. Product identifier Formalin

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

1.3. Details of the supplier of the safety data sheet

Supplier	Fullwood Limited Grange Road, Ellesmere Shropshire SY12 9DF	Manufacturer	Kilco (International) Ltd. Broomhouses 2 Industrial Estate, Old Glasgow Road, Lockerbie, Dumfriesshire. DG11 2SD
Phone Number	01691 627391	Phone Number	+44 (0) 1576 205480
Fax Number	01691 627361	Fax Number	+44 (0) 1576 205483
		Emergency Phone Number	+44 (0) 1576 205480 [UK 9am - 5pm only]
		E-mail	sds@kilco.co.uk

1.4. Emergency telephone number +44 (0) 207 858 1228 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (1999/45/EEC) Toxic

2.2. Label elements

Symbol (s) T

Risk phrases R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R34 Causes burns.

R40 Limited evidence of a carcinogenic effect.

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.

Safety phrases S2 Keep out of the reach of children

S9 Keep container in a well-ventilated place.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S35 This material and its container must be disposed of in a safe way.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

2.3. Other hazards

This product does not contain any PBT or vPvB substances.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical Characterisation: Formaldehyde and methyl alcohol blend

Component	EINECS No:	CAS No:	% Inclusion	Classification	Concentration limits (Annex I 67/548/EEC)
Formaldehyde	200-001-8	50-00-0	30 - 55	Carc 3;R40 T;R23/24/25 C;R34 R43	T; R23/24/25: C ≥25 % Xn; R20/21/22: 5 % ≤ C < 25 % C; R34: C ≥25 % Xi; R36/37/38: 5 % ≤ C < 25 % R43: C ≥ 0,2 %
Methyl Alcohol	200-659-6	67-56-1	<10	F;R11 T;R23/24/25,R39/23/24/25	T; R23/24/25: C ≥ 20 % Xn; R20/21/22: 3 % ≤ C < 20 % T; R39/23/24/25: C ≥ 10 % Xn; R68/20/21/22: 3 % ≤ C < 10%

SECTION 4: First aid measures

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4.1. Description of first aid measures

General advice	Remove from exposure
Eyes	Speed is essential. With eye held open, thoroughly rinse with plenty of water for at least 15 minutes. Protect unharmed eye. Continue rinsing process with saline solution.
Skin	Immediately flood the skin with large quantities of water, preferably under a shower. Continue washing for at least 10 minutes. In case of discomfort: Supply with medical care. Remove contaminated clothing immediately as washing proceeds.
Ingestion	Provide rest, warmth and fresh air. Immediately rinse mouth and drink plenty of water (200-300 ml). Get medical attention immediately.
Inhalation	Take affected persons out into the fresh air. If breathing affected give artificial respiration and seek immediate medical advice.

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

Eyes	Vapours cause irritation to the eyes with redness, pain, and blurred vision. Higher concentrations, splashes, or prolonged exposure may cause irreversible eye damage.
Skin	Toxic. May cause irritation to skin with redness, pain, and possibly burns. Skin absorption may occur with symptoms paralleling those from ingestion. Formaldehyde is a severe skin irritant and sensitiser. Contact causes white discoloration, smarting, cracking and scaling.
Ingestion	Can cause severe abdominal pain, violent vomiting, headache, and diarrhoea. Larger doses may produce decreased body temperature, pain in the digestive tract, shallow respiration, weak irregular pulse, unconsciousness and death. Methanol component affects the optic nerve and may cause blindness. Ingestion may prove fatal.
Inhalation	May cause sore throat, coughing, and shortness of breath. Causes irritation and sensitisation of the respiratory tract. Concentrations of 25 to 30 ppm cause severe respiratory tract injury leading to pulmonary oedema and pneumonitis. May be fatal in high concentrations.

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

Notes to physician	Monitor arterial blood gases and methanol levels after significant ingestion. Haemodialysis may be effective in formaldehyde removal. Use formic acid in urine and formaldehyde in blood or expired air as diagnostic tests.
Chronic Exposure	Frequent or prolonged exposure to formaldehyde may cause hypersensitivity leading to contact dermatitis. Repeated or prolonged skin contact with formaldehyde may cause an allergic reaction in some people. Vision impairment and enlargement of liver may occur from methanol component. Formaldehyde is a suspected carcinogen (positive animal inhalation studies).
Aggravation of Pre-existing Conditions	Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance. Previously exposed persons may have an allergic reaction to future exposures.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Water spray, foam, dry powder or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Formaldehyde gas

5.3. Advice for firefighters

Evacuate personnel to safe areas. Keep out unprotected persons. Keep unauthorised persons away. Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Ensure that there are sufficient retaining facilities for water used to extinguish fire. Contaminated fire-extinguishing water must be disposed of in accordance with the regulations issued by the appropriate local authorities. Fire residues should be disposed of in accordance with the regulations. To cool, spray closed containers with water spray jet. In case of fire, remove the endangered containers and bring to a safe place, if this can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear appropriate protective clothing, approved respirator, gloves, goggles etc – see section 8. Evacuate personnel to safe areas. Keep out unprotected persons. Keep unauthorised persons away.

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6.2. Environmental precautions

Observe regulations on preventions of water pollution (collect, dam up, cover up) Prevent the material from entering drains or watercourses.

6.3. Methods and material for containment and cleaning up

Large spillages should be collected for disposal. Collect in suitable containers. Keep away from incompatible substances. Clean contaminated surface thoroughly – recommended cleaning agent – water. Dispose of absorbed material in accordance with the regulations. Never return spilled product into its original containers for re-use.

6.4. Reference to other sections

Protective clothing - section 8. Disposal – Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Wear suitable protective clothing. Avoid contact with skin, eyes and clothing. Do not inhale vapour, aerosols, and sprays. When using, avoid spray mists. Operate in a well ventilated place. For personal protection see Section 8. Handle in accordance with good industrial hygiene and safety practice. Immediately change moistened or saturated work clothes. Immediately rinse contaminated or saturated clothing with water. Never return spilled product into its original containers for re-use. Avoid impurities. Transport and store container in upright position only. Do not empty container by means of pressure.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from incompatible substances. Keep only in the original container. Keep container closed and in a clean, cool, and well ventilated place away from heat, flammable materials and intense light. Avoid residues of the product on the containers. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Standards	EH40 WEL Short Term	EH40 WEL TWA
Formaldehyde	2.5 mg/m ³	2.5 mg/m ³
Methanol	333 mg/m ³	-

8.2. Exposure controls

Eye / face protection	Chemical goggles or face shield EN166
Hand protection	Chemical resistant gloves. Natural rubber (NR)/ Polychloroprene (PCP). (EN 374).
Other	PVC or other impermeable suit (suitable materials – PVC, neoprene, nitrile rubber (NBR), rubber). PVC or rubber boots.
Respiratory protection	Ensure there is good room ventilation. Do not inhale (DUST) vapour, aerosol or mist. If ventilation is insufficient, wear respiratory protection. Respirator with type B filter. (EN141 / EN143 or equivalent)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear colourless liquid	Vapour pressure	2.7 mmHg @ 21°C
Odour	Pungent Aldehyde	Vapour density	No data available
Odour threshold	No data available	Relative density	1.090 – 1.160
pH	2.5 – 5.5	Solubility (ies)	Water soluble
Melting /freezing point	No data available	Partition coefficient: n-octanol/water	0.35, for formaldehyde gas
Boiling point/boiling range	96 - 101°C	Auto-ignition temperature	No data available
Flash point	83°C	Decomposition temperature	No data available
Evaporation rate	No data available	Viscosity	3mPas @20 °C
Flammability (solid, gas)	No flammable components	Explosive properties	No explosive components

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Upper/lower flammability or explosive limits

No explosive components

Oxidising properties

Not an oxidiser

9.2. Other information

No Data

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

No data supplied

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 0 –50°C, otherwise may polymerise. Avoid naked flames and other sources of ignitions (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

Acute toxicity	LD50 (oral, rat): 100 mg/kg, LD50 (dermal, rabbit): approx. 270 mg/kg, LC50 (inhalation, rat); 203 mg/l/m ³
Irritation	Can cause severe eye irritation with permanent damage.
Corrosivity	Can cause skin burns.
Sensitisation	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
Repeated dose toxicity	No data supplied
Carcinogenicity	Classified as a Category 2 carcinogen under CLP in the EU, mainly on grounds of inhalation experiments in animals that led to nasal cancer. 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.
Mutagenicity	No components are classified as Mutagenic
Toxicity for reproduction	No components are classified as Toxic for reproduction

SECTION 12: Ecological information

12.1. Toxicity

LC50, Pimephales promelas, 96hr 24 mg/l, LC50, Brachydanio rerio 96hr 41 mg/l, EC50, Daphnia magna, 24hr -2 mg/l
EC50, Daphnia magna, 48hr 42 mg/l
Bacterial toxicity: EC50 Photobacterium phosphoreum, 30 min 8.5 mg/l
Activated sludge: EC20 Pseudomonas putida, 5hr >1,995 mg/l

12.2. Persistence and degradability

Readily biodegradable

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12.3. Bioaccumulative potential

Product is not expected to bioaccumulate.

12.4. Mobility in soil

Adsorption to solid soil phase is not expected.

Formaldehyde will not evaporate into the atmosphere from water surfaces.

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

No data supplied

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal Dispose of in accordance with all applicable local and national regulations.

Container disposal Contaminated, empty containers must be disposed of as chemical waste. Residual chemical should be disposed of by incineration or by other modes of disposal in compliance with local legislation

SECTION 14: Transport information

14.1. UN number 2209

14.2. UN proper shipping name Formaldehyde Solution

14.3. Transport hazard class(es) 8

14.4. Packing group III

14.5. Environmental hazards Not Marine Pollutant

14.6. Special precautions for user Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable

SECTION 15: Regulatory information

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

The Chemical (Hazard Information for Packaging and Supply) Regulations 2009 (SI 2009:716) and associated documents.

COMMISSION REGULATION (EU) No 453/2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

HSE Guidance Note EH40 2007

The European Agreement Concerning the Carriage of Dangerous Goods by Road (ADR), 2009 Edition.

The International Maritime Dangerous Goods Code, (IMDG) 2010 Edition.

The International Air Transport Association Dangerous Goods Regulations, (IATA), 2012 Edition.

Safety Data Sheets provided by suppliers of component substances.

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

Note: Sections in italics indicate significant changes from the previous version

Full text of R phrases from section 3.

R11 Highly flammable.

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R34 Causes burns.

R37 Irritating to respiratory system.

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R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

R40 Limited evidence of a carcinogenic effect.

R43 May cause sensitisation by skin contact.

Training advice.

Those who are employed in the use of this product must be given training which highlights the need to handle and use it only in the recommended manner and at all times make use of the prescribed personal protective equipment.

Recommended restrictions on use.

This product should be stored and handled in accordance with guidance given above and used only in the recommended manner and in conformity with any legal requirements

This safety data sheet has been supplied in accordance with the requirements of Article 31 of Regulation EC No 1907/2006 (the REACH regulation) and the information contained herein is displayed in the order prescribed in Annex II to that regulation, as amended 2010. Its purpose is to facilitate the carrying out of a risk assessment. Employers are reminded of their duty to carry out such an assessment and subsequently to provide an appropriate working environment, to make available to those who are required to use this product all necessary personal protective equipment and to ensure that such equipment is used.

The safety data sheet is additional to the technical data sheet but does not replace it. The information given herein is to the best of our knowledge correct and given in good faith. It relates to the product in the state in which it is delivered. This product is for the uses specified and should only be used for those purposes. Any other use may involve risks. The user will take sole responsibility for the precautions relating to the use of the product. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

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