



PRODUCT SPECIFICATION

Product Name Formaldehyde
Alternative Name
Specification Reference FO/3 (09/08/06/15/0080257)

SALES SPECIFICATION

GRADE	30%	40.0/12.5	35/10%	36.6/7.3%
Formaldehyde Content (% w/w)	30.0-30.2	36.4-36.8	34.9-35.1	36.5-36.7
Methanol Content (% w/w)	1.0 max	12.0-13.0	9.5 - 10.0	7.1-7.5
Acidity (as Formic Acid) (% w/w)	0.05 max	0.025 max	0.025 max	0.025 max
Relative Density 25/25°C	1.089-1.093	1.077-1.081	1.080-1.083	1.092-1.094
Iron as Fe (ppm max)	2	2	2	2
Appearance	Water White solution	Water White solution	Water White solution	Water White solution
pH	3.0-5.0	3.0-5.0	3.0-5.0	3.0-5.0
Ash content (% w/w)	0.01 max	0.01 max	0.01 max	0.01 max
Minimum storage temperature (°C)	-10	0	-10	0

*For 30 day shelf-life at constant temperature. Temperatures relate to stabilised solutions. Merchants and distributors are recommended to store formaldehyde solutions at least 5 to 10°C above these temperatures to ensure good condition when re-sold. Excessively high temperatures (especially above ca. 50°C) should be avoided wherever possible to minimise acidity increase).

NOTES

Exclusion of Liability

Information contained in this publication is accurate to the best of the knowledge and belief of Tennants.

Any information or advice obtained from Tennants otherwise than by means of this publication and whether relating to Tennants materials or other materials, is also given in good faith. However, it remains at all times the responsibility of the customer to ensure that Tennants materials are suitable for the particular purpose intended.

Tennants accepts no liability whatsoever (except as otherwise provided by law) arising out of the use of information supplied, the application, adaptation or processing of the products described herein, the use of other materials in lieu of Tennants materials or the use of Tennants materials in conjunction with such other materials.

Health and Safety

A Material Safety Data Sheet has been issued describing the health, safety and environmental properties of this product, identifying the potential hazards and giving advice on the handling precautions and emergency procedures. This must be consulted fully before handling, storage and use.



SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

1.1 Product Identifier

Trade Name	Formaldehyde 30 – 50%
REACH Registration Number	01-2119488953-20-XXXX
CAS Number	50-00-0
EC Number	200-001-8
HMRC Commodity Code	291211000

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

Identified use(s):	Chemical intermediate
Not to be used for:	None specified

1.3 Details of the supplier of the safety data sheet

Tennants Distribution Limited
Hazelbottom Road
Cheetham
Manchester
M8 0GR
Tel: 44(0)161 205 4454
Fax: 44(0) 161 203 4298
Email: msds@tennantsdistribution.com

1.4 Emergency telephone number

Tel: 44(0) 844 3350001 (24 hours)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Regulation 1272/2008 (CLP)

Physical hazards - Not Classified

Health hazards

Acute Tox. 3 - H301
Acute Tox. 3 - H311
Acute Tox. 2 - H330
Skin Corr. 1B - H314
Skin Sens. 1 - H317
Muta. 2 - H341
Carc. 1B - H350
STOT SE 2 – H371
STOT SE 3 - H335

Environmental hazards – Not classified

2.2 Label elements

2.2.1 According to Regulation (EC) No. 1272/2008 (CLP).

EC No. 200-001-8



Signal word(s) Danger.

Hazard statement(s)

H301+H311 Toxic if swallowed or in contact with skin.
H330 Fatal if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H371 May cause damage to organs .
H335 May cause respiratory irritation.



Precautionary statement(s)

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe vapour/ spray.
P261 Avoid breathing vapour/ spray.
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 [In case of inadequate ventilation] wear respiratory protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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 or 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.
P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor.
P308+P313 IF exposed or concerned: Get medical advice/ attention.
P312 Call a POISON CENTRE/doctor if you feel unwell.
P320 Specific treatment is urgent (see medical advice on this label).
P321 Specific treatment (see medical advice on this label).
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container in accordance with national regulations.
Contains: Formaldehyde. Methanol

2.3 Other hazards

No further information

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Ingredient CAS No./EC No. REACH Registration No. Classification	30 – 50% Formaldehyde 50-00-0/200-001-8 01-2119488953-20-XXXX Acute Tox. 3 - H301 Acute Tox. 3 - H311 Acute Tox. 2 - H330 Skin Corr. 1B - H314 Skin Sens. 1A - H317 Muta. 2 - H341 Carc. 1B - H350 STOT SE 3 - H335
Ingredient CAS No./EC No. REACH Registration No. Classification	3 - 10% Methanol 67-56-1/200-659-6 01-2119433307-44-XXXX Flam. Liq. 2 - H225 Acute Tox. 3 - H301 Acute Tox. 3 - H311 Acute Tox. 3 – H331 STOT SE 1 - H370

The full text for all hazard statements is displayed in Section 16

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye Contact

Remove any contact lenses and open eyelids wide apart. Rinse with water. Continue to rinse for at least 15 minutes and get medical attention.



<p>Inhalation Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.</p>
<p>Skin contact Remove affected person from source of contamination. Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if symptoms are severe or persist after washing.</p>
<p>Ingestion Remove affected person from source of contamination. Remove person to fresh air and keep comfortable for breathing. Never give anything by mouth to an unconscious person. Give plenty of water to drink. Do not induce vomiting. Get medical attention immediately.</p>
<p>Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue.</p>
<p>4.2 Most import symptoms and effects, both acute and delayed</p> <p>Inhalation Prolonged or repeated exposure to vapours in high concentrations may cause the following adverse effects: May cause sensitisation or allergic reactions in sensitive individuals.</p> <p>Ingestion Prolonged or repeated exposure may cause the following adverse effects: May cause liver and/or renal damage.</p> <p>Skin contact This product is corrosive. The product contains a sensitising substance.</p> <p>Eye contact This product is corrosive. Prolonged or repeated exposure to vapours in high concentrations may cause the following adverse effects: May cause severe eye irritation.</p>
<p>4.3 Indication of any immediate medical attention and special treatment needed</p> <p>Notes for the doctor Treat symptomatically. Get medical attention if a large quantity has been ingested.</p> <p>Specific treatment No special treatment required.</p>
<p>5. FIRE FIGHTING MEASURES</p>
<p>5.1 Extinguishing Media</p> <p>Suitable: Use alcohol-resistant foam, carbon dioxide or dry powder to extinguish. Use dry powder, dry sand or dry earth to extinguish. Water spray, fog or mist.</p> <p>Not suitable: Do not use water jet as an extinguisher, as this will spread the fire.</p>
<p>5.2 Special hazards arising from the substance or mixture</p> <p>Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Oxides of nitrogen.</p>
<p>5.3 Advice for fire-fighters</p> <p>Protective actions during fire fighting In case of fire: Evacuate area. No action shall be taken without appropriate training or involving any personal risk. Control run-off water by containing and keeping it out of sewers and watercourses.</p> <p>Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.</p>
<p>6. ACCIDENTAL RELEASE MEASURES</p>
<p>6.1 Personal precautions, protective equipment and emergency procedures No action shall be taken without appropriate training or involving any personal risk. Evacuate area. Wear protective clothing as described in Section 8 of this safety data sheet.</p> <p>For non-emergency personnel: Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke.</p> <p>For emergency responders: Wear protective clothing as described in Section 8 of this safety data sheet.</p>
<p>6.2 Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).</p>
<p>6.3 Methods and material for containment and cleaning up</p> <p>Methods for cleaning up</p> <p>Small Spillages: Stop leak if safe to do so. Move containers from spillage area. Do not touch or walk into spilled material. Absorb spillage with sand or other inert absorbent.</p> <p>Large Spillages: Absorb spillage with sand or other inert absorbent. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor.</p>
<p>6.4 Reference to other sections See section 8 for details of protective equipment. See section 13 for details of disposal.</p>



7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Usage precautions

For professional users only. Persons susceptible to allergic reactions should not handle this product. For personal protection, see Section 8.

Advice on general occupational hygiene

Persons susceptible to allergic reactions should not handle this product. Do not eat, drink or smoke when using this product. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet.

7.2 Conditions for safe storage, including any incompatibilities

Storage precautions

Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

7.3 Specific end use(s)

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Formaldehyde

Long-term exposure limit (8-hour TWA): WEL 2 ppm 2.5 mg/m³

Short-term exposure limit (15-minute): WEL 2 ppm 2.5 mg/m³

Methanol

Long-term exposure limit (8-hour TWA): WEL 200 ppm 266 mg/m³

Short-term exposure limit (15-minute): WEL 250 ppm 333 mg/m³

Sk

WEL = Workplace Exposure Limit

Sk = Can be absorbed through the skin.

DNEL

Formaldehyde

Workers - Inhalation; Short term systemic effects: 1 mg/m³

Workers - Inhalation; Long term local effects: 0.5 mg/m³

Workers - Inhalation; Short term local effects: 0.75 mg/m³

Workers - Inhalation; Long term systemic effects: 0.5 mg/m³

Workers - Dermal; Long term systemic effects: 240 mg/kg/day

Workers - Dermal; Long term local effects: 0.037 mg/cm²

Methanol

Workers - Inhalation; Short term systemic effects: 260 mg/m³

Workers - Inhalation; Short term local effects: 260 mg/m³

Workers - Inhalation; Long term local effects: 260 mg/m³

Workers - Inhalation; Long term systemic effects: 260 mg/m³

Workers - Dermal; Short term systemic effects: 40 mg/kg/day

Workers - Dermal; Long term systemic effects: 40 mg/kg/day

PNEC

Formaldehyde

- Water; 4.7 mg/l

- Fresh water; 0.47 mg/l

- marine water; 0.47 mg/l

- Sediment (Freshwater); 2.44 mg/kg

- Sediment (Marinewater); 2.44 mg/kg

- Soil; 0.21 mg/kg

- STP; 0.19 mg/l

Methanol

- Water; 1540 mg/l

- Fresh water; 20.8 mg/l

- marine water; 2.08 mg/l

- Soil; 3.18 ug/kg

- STP; 100 mg/l

- Sediment (Freshwater); 77 mg/kg

- Sediment (Marinewater); 7.7 mg/kg

8.2 Exposure controls



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Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist.

Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield.

Hand protection

To protect hands from chemicals, gloves should comply with European Standard EN374. It is recommended that gloves are made of the following material: Butyl rubber. Nitrile rubber. Viton rubber (fluoro rubber). Frequent changes are recommended.

Skin protection

Avoid contact with skin. Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

Hygiene measures

Good personal hygiene procedures should be implemented. Wash promptly with soap and water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Wash at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product. Do not smoke in work area. Provide eyewash station and safety shower.

Respiratory protection

Wear a full face piece respirator fitted with the following cartridge: Gas filter, type A2. Gas filter, type AX.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Colourless liquid
Odour	Irritating, pungent
Odour threshold	Not determined
pH (concentrated solution)	2.5 – 5.5
Melting Point	-15 °C approx.
Boiling point/range	96 – 101°C
Flashpoint	63 - 75 °C
Evaporation rate	Not determined
Flammability (solid, gas)	Flammable liquid and vapour
Upper/lower flammability or explosive limits	Formaldehyde Lower flammable/explosive limit: 7% Upper flammable/explosive limit: 73% Methanol Lower flammable/explosive limit: 6% Upper flammable/explosive limit: 37%
Vapour pressure	4.2 mm HG at 35 °C
Vapour density	Not determined
Density at 20°C	1080-1160 kg/m ³ @20°C
Solubility	Miscible with water. Soluble in the following materials: Ethanol.
Partition coefficient (log K _{ow})	Formaldehyde log Kow: 0.35 Methanol. log Kow: -0.77
Auto-ignition temperature	300 °C
Decomposition temperature	400°C
Viscosity	1.0 mPa.s at 20°C
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2 Other information

No further information

10. STABILITY AND REACTIVITY

10.1 Reactivity

See Section 10.3 (Possibility of hazardous reactions) for further information.

10.2 Chemical stability

Stable at normal ambient temperatures and when used as recommended.

10.3 Possibility of hazardous reactions

The following materials may react with the product: Acids. Strong oxidising agents.

10.4 Conditions to avoid



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Avoid heat, flames and other sources of ignition.

10.5 Incompatible materials

Avoid contact with the following materials: Acids. Strong oxidising agents.

10.6 Hazardous decomposition products

Heating may generate the following products: Oxides of carbon. Oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

Acute toxicity – oral: ATE oral (mg/kg) 259.74
Acute toxicity – dermal: ATE dermal (mg/kg) 717.13
Acute toxicity – inhalation: ATE inhalation (gases ppm) 333.33
Acute toxicity – inhalation: ATE inhalation (vapours mg/l) 35.29

Toxicological information on ingredients

Formaldehyde

Acute toxicity oral (LD₅₀mg/kg) 640.0. Species rat ATE oral (mg/kg) 100.0
Acute toxicity dermal (LD₅₀ mg/kg) 270.0. Species rabbit ATE dermal (mg/kg) 300.0
Acute toxicity inhalation (LC₅₀ gases ppmV). Species rat ATE inhalation (gases ppm) 463.0. ATE inhalation (gases ppm) 100.0

IARC carcinogenicity

IARC Group 1 Carcinogenic to humans.

NTP carcinogenicity

Known human carcinogen.

Methanol

Acute toxicity oral (LD₅₀ mg/kg) 1,187.0. Species rat ATE oral (mg/kg) 100.0
Acute toxicity dermal (LD₅₀ mg/kg) 17,100.0. Species rabbit ATE dermal (mg/kg) 300.0
Acute toxicity inhalation ATE inhalation (LC50 vapours mg/l) 128.2. Species rat ATE inhalation (LC50 vapours mg/l) 3.0

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Acute toxicity - fish

LC₅₀, 96 hours: 24 mg/l, Fish, Pimephales promelas (Fat-head Minnow)
LC₅₀, 96 hours: 41 mg/l, Fish, Brachydanio rerio (Zebra Fish)

Acute toxicity – aquatic invertebrates

EC₅₀, 48 hours: ~2 mg/l, Daphnia magna
EC₅₀, 24 hours: 42 mg/l, Daphnia magna

Acute toxicity – microorganisms

EC₅₀, 5 hours: >1995 mg/l, Activated sludge

12.2 Persistence and degradability

Readily biodegradable

12.3 Bio accumulative potential

Bioaccumulative potential

The product is not bioaccumulating.

Partition coefficient

Formaldehyde log Kow: 0.35 Methanol. log Kow: -0.77

12.4 Mobility in soil

Expected to have a low potential for adsorption.

12.5 Results of PBT and vPvB assessment

This product does not contain any substances classified as PBT or vPvB.

12.6 Other adverse effects

No further relevant information

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

General information

The generation of waste should be minimised or avoided wherever possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.


Disposal methods

Dispose of waste via a licensed waste disposal contractor.

Waste class



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Commission Decision 2000/532/EC as amended by Decision 2001/118/EC establishing a list of wastes and hazardous waste pursuant to Council Directive 75/442/EEC on waste and Directive 91/689/EEC on hazardous waste with amendments.	
14. TRANSPORT INFORMATION	
14.1 UN Number	2209
14.2 Proper Shipping Name	FORMALDEHYDE SOLUTION
14.3 Transport Hazard Class ADR/RID classification code Transport labels	8 C9 
14.4 Packing group	III
14.5 Environmental Hazards Environmentally hazardous substance/marine pollutant	No
14.6 Special precautions for users EmS ADR transport category Emergency Action Code Hazard Identification Number ADR/RID Tunnel code	F-A, S-B 3 2X 80 (E)
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No further information	
15. REGULATORY INFORMATION	
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
National regulations The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.	
EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).	
15.2 Chemical safety assessment A Chemical Safety Assessment has been carried out	
16. OTHER INFORMATION	
H-Statements used in Sections 2 and 3 H225 Highly flammable liquid and vapour. H301 Toxic if swallowed. H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H330 Fatal if inhaled. H331 Toxic if inhaled. H335 May cause respiratory irritation. H341 Suspected of causing genetic defects. H350 May cause cancer. H370 Causes damage to organs . H371 May cause damage to organs .	
Source of key data used to compile the data sheet Supplier information	
Modifications from last revision Section 3 revised. Date 24/09/2020	