HURST SCIENTIFIC

Safety Data Sheet
Formaldehyde 37/7

SECTION 1: Identification

1.1 GHS Product identifier

Product name	Formaldehyde 37/7
Substance name	FORMALDEHYDE, 37% SOLUTION
CAS no.	50-00-0
Index no.	605-001-00-5

1.3 Recommended use of the chemical and restrictions on use

Used in hospital and pathology laboratories as a constituent in embalming fluid, preservative and disinfectant

*COMMENTS:
This is a 37% by weight solution of formaldehyde in water with 10-15% methanol added as a stabilizer.

1.4 Supplier's details

Name	Hurst Scientific
Address	2 Transit Place 6112 Forrestdale WA Australia
Telephone	1300 778 068
email	sales@hurstscientific.com.au

1.5 Emergency phone number

Australian Poisons Information Centre 131 126
Australian Emergency Services 000

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, dermal, Cat. 3
- Acute toxicity, inhalation, Cat. 3
- Acute toxicity, oral, Cat. 3
- Carcinogenicity, Cat. 1B
- Germ cell mutagenicity, Cat. 2
- Serious eye damage/eye irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1B
- Skin sensitizer, Cat. 1
- Specific target organ toxicity following single exposure, Cat. 1

2.2 GHS label elements, including precautionary statements

Pictograms

1. Skull and crossbones; 2. Health hazard; 3. Corrosion; 4. Exclamation mark

Signal word **Danger**

Hazard statement(s)

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
H318	Causes serious eye damage
H331	Toxic if inhaled
H341	Suspected of causing genetic defects [route]
H350	May cause cancer [route]
H370	Causes damage to organs [organs, route]

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 dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash … 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.
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/doctor/...
P308+P313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER/doctor/...
P311	Call a POISON CENTER/doctor/...
P312	Call a POISON CENTER/doctor/... if you feel unwell.
P321	Specific treatment (see … on this label).
P330	Rinse mouth.
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 to …

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Substance name	FORMALDEHYDE, 37% SOLUTION
CAS no.	50-00-0
Index no.	605-001-00-5
Formula	CH2O
Molecular weight	30.03

Hazardous components

1. Methanol

Concentration	15 %
EC no.	200-659-6
CAS no.	67-56-1
Index no.	603-001-00-X
Classifications	Flam. Liq. 2
	Acute toxicity, inhalation, Cat. 3
	Acute toxicity, dermal, Cat. 3
	Acute toxicity, oral, Cat. 3
	Specific target organ toxicity, single exposure, Cat. 1
Hazards	H225 Highly flammable liquid and vapor
	H301 Toxic if swallowed
	H311 Toxic in contact with skin
	H331 Toxic if inhaled
	H370 Causes damage to organs [organs, route]
SCLs/M-factors/ATEs	*
	STOT SE 1; H370: C ≥ 10 %
	STOT SE 2; H371: 3 % ≤ C < 10 %

2. Water/aqua/eau

Concentration	48 %
CAS no.	7732-18-5

3. Formaldehyde

Concentration	37 %
EC no.	200-001-8
CAS no.	50-00-0
Index no.	605-001-00-5
Classifications	Carc. 1B
	Germ cell mutagenicity, Cat. 2
	Acute toxicity, inhalation, Cat. 3
	Acute toxicity, dermal, Cat. 3
	Acute toxicity, oral, Cat. 3
	Skin corrosion/irritation, Cat. 1B
	Sensitization - skin, Cat. 1
Hazards	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
	H341 Suspected of causing genetic defects [route]
	H350 May cause cancer [route]
SCLs/M-factors/ATEs	STOT SE 3; H335: C ≥ 5 %
	Skin Corr. 1B; H314: C ≥ 25 %
	Skin Irrit. 2; H315: 5 % ≤ C < 25 %
	Eye Irrit. 2; H319: 5 % ≤ C < 25 %
	Skin Sens. 1; H317: C ≥ 0,2 %

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. First Aid Facilities: Maintain eyewash fountain in work area. For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26 or a doctor (at once).
If inhaled	Evacuate to fresh air immediately. Seek medical attention. If unconscious place in recovery position, provide artificial respiration if breathing ceases.
In case of skin contact	Remove contaminated clothing and wash affected area with soap and water thoroughly. If irritation develops, seek medical attention.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical attention.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

4.2 Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of immediate medical attention and special treatment needed, if necessary
For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use media suitable for other material involved in fire.

5.2 Specific hazards arising from the chemical
Toxic gases may evolve.

5.3 Special protective actions for fire-fighters
Wear SCBA (Self-Contained Breathing Apparatus) and full protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear appropriate protective clothing. Ensure adequate ventilation. If possible contain the spill. Evacuate all unnecessary personnel.

6.3 Methods and materials for containment and cleaning up
Absorb with vermiculite or similar and place into a suitably labelled container. Dispose of waste according to local authority guidelines. Wash the affected area with a large volume of water. Do not contaminate drains or waterways.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Use only in an adequately ventilated area away from all sources of ignition. Avoid breathing in mists or vapours. Wear appropriate protective clothing to avoid any exposure and practice good personal hygiene.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area away from heat, sources of ignition and out of direct sunlight. Keep containers cool and tightly closed when not in use. Avoid exposure to light and air.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 50-00-0

Formaldehyde, 37% solution

AU/SWA (AU): 2 ppm; 2.5 mg/m3 STEL inhalation [Formaldehyde]; 1 ppm; 1.2 mg/m3 TWA inhalation [Formaldehyde]

CAS: 67-56-1

Methanol

AU/SWA (AU): 250 ppm; 328 mg/m3 STEL inhalation [Methyl alcohol]; 200 ppm; 262 mg/m3 TWA inhalation [Methyl alcohol]

8.2 Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate.

Skin protection

chemical-resistant gloves and laboratory coat.

Body protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Color	Clear or Coloured with Dye
Odor	Pungent
Melting point/freezing point	-92°C
Boiling point or initial boiling point and boiling range	96°C
Flammability	Combustible Liquid
Lower and upper explosion limit/flammability limit	Flammable Limits - Lower: 7% Upper: 70%
Flash point	85°C
Auto-ignition temperature	~300°C
Decomposition temperature	
pH	2.5-4.0
Solubility	Water Soluble

Density and/or relative density	1.09g/cm3
Relative vapor density	1.0

Further safety characteristics (supplemental)
*VOLATILITY:
Vapor pressure: 93.60 mm Hg @ 38 C (RAD)
Vapor density : 1.0 [451]

*FLAMMABILITY(FLASH POINT):
This chemical has a flash point of 85 C (185 F) (058). It is combustible. Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used [036,058]. The autoignition temperature is 430 C (806 F) [043].

*UEL: 73.0% [043,051,451] LEL: 7.0% [043,051,451]

*REACTIVITY:
This chemical is a strong reducing agent, especially in the presence of alkalies. It is incompatible with ammonia, alkalies, tannin, bisulfides, iron preparations, copper salts, iron salts, silver salts, iodine and potassium permanganate. It combines directly with albumin, casein, gelatin, agar and starch to form insoluble compounds [031]. It reacts violently with nitrous oxides at about 180 C, ($HClO_4$ + aniline), performic acid, nitromethane, manganese carbonate and hydrogen peroxide [043]. It reacts with strong oxidizers and acids [346]. It is also incompatible with phenols [295].

*STABILITY:
This material may become cloudy upon standing, especially at cool temperatures. It slowly oxidizes in air. It is sensitive to exposure to light [169,295]. It is polymerized in aqueous solutions if unstablilized [169]. Solutions of this chemical in water, DMSO, 95% ethanol or acetone should be stable for 24 hours under normal lab conditions (RAD).

*OTHER PHYSICAL DATA:
Refractive index: 1.3746 @ 20 C [031]
Pungent, suffocating odor [025]
pH: 2.8-4.0 [031]
Burning taste [455]
Specific gravity: 0.815 @ 20/4 C [172]
This chemical is stabilized

SECTION 10: Stability and reactivity

10.1 Reactivity
Non-reactive under recommended conditions for use and storage.

10.2 Chemical stability
Stabilised with Methanol. May become cloudy on standing when cold (<20C).

10.3 Possibility of hazardous reactions
Undergoes non-hazardous self-polymerization to form paraformaldehyde. (Methanol stabilisation reduces precipitation.) Will polymerize with active organic materials such as phenol.

10.4 Conditions to avoid
Avoid heat, sources of ignition, direct sunlight, moisture, static discharges and high temperatures.

10.5 Incompatible materials

Incompatible/reactive with strong oxidisers, alkalis and acids, phenols, urea, oxides, isocyanates, caustics, anhydrides.

10.6 Hazardous decomposition products
Heating may cause decomposition leading to violent rupture of containers. May emit flammable vapour if involved in fire. At elevated temperatures, oxidation of formaldehyde produces formic acid. Decomposition products may include toxic fumes of carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Eye Contact Causes burns. The liquid is extremely discomforting to the eyes and is capable of causing pain and severe conjunctivitis. Corneal injury may develop, with possible permanent impairment of vision, if not promptly and adequately treated. The vapour is highly discomforting and may cause lachrymation (tears) and burning sensation. The methanol stabiliser in solutions is a cause of visual impairment and possible permanent blindness.

Skin Contact Toxic in contact with skin. Causes burns. May cause sensitisation by skin contact. The liquid is highly discomforting to the skin and may cause chemical burns if exposure is prolonged. The material is capable of causing allergic skin reactions skin sensitisation. Sensitisation may result in allergic dermatitis responses including rash, itching, hives or swelling of extremities.

Inhalation Toxic by inhalation. Causes burns. The vapour is highly discomforting to the upper respiratory tract and repeated exposure may cause sensitisation and/or allergic reactions. Sensitisation reactions may appear suddenly after repeated exposures. Inhalation of vapour at relatively low concentrations may cause a tingling sensation in the nose and upper respiratory tract. Slightly higher concentrations may cause a burning sensation.

Ingestion Toxic if swallowed. Causes burns. The liquid is extremely discomforting and is toxic if swallowed. Ingestion may cause immediate severe abdominal pain, with vomiting, nausea, diarrhoea, anuria, dizziness, followed by unconsciousness, convulsions and may result in death.

// ----- From the Suggestion report (30/07/2025, 11:25 AM) ----- //
The ATE (dermal) of the mixture is: 576.92 mg/kg bw

// ----- From the Suggestion report (30/07/2025, 11:25 AM) ----- //
The ATE (gas inhalation) of the mixture is: 1346.15 ppmV

// ----- From the Suggestion report (30/07/2025, 11:25 AM) ----- //
The ATE (oral) of the mixture is: 192.31 mg/kg bw

Skin corrosion/irritation
Causes severe skin burns.

Serious eye damage/irritation
Causes serious eye damage.

Respiratory or skin sensitization
May cause dermatitis and allergic skin reactions.

Germ cell mutagenicity
Suspected of causing genetic defects.

Carcinogenicity

Formaldehyde is classified as a Category 1B Carcinogen (IARC) – a substance which is presumed to have carcinogenic potential for humans, classification is largely based on animal evidence.

Reproductive toxicity
No data available.

Specific target organ toxicity (STOT) - single exposure
May cause damage to organs, including CNS effects, optic nerve (contains Methanol). May cause respiratory irritation. Inhalation may cause cough, sore throat, burning sensation behind breastbone, headache, shortness of breath. Inhalation of high concentrations may cause lung oedema

Specific target organ toxicity (STOT) - repeated exposure
Repeated or chronic inhalation of the vapour may cause chronic inflammation of the upper respiratory tract.

Aspiration hazard
No Data Available

Additional information
Formaldehyde - LD50/oral/rat: 100mg/kg

Methanol - Minimum acute lethal dose in humans: 300-1000 mg/kg bw.

SECTION 12: Ecological information

Toxicity
FORMALDEHYDE: Harmful to aquatic organisms. Avoid release to

the environment.
Aquatic toxicity: Formaldehyde: -
LC50, Fish (Morone saxatilis): 6.18 mg/L (96 h) [ECHA].
EC50, Crustacea (Daphnia pulex): 5.8 mg/L (48 h) [ECHA].
EC50, Algae (freshwater): 5.67 mg/L (72 h) growth rate [ECHA].

Persistence and degradability
Substance is readily biodegradable (Formaldehyde). Methanol is

readily degradable.

Bioaccumulative potential
Not expected to bio-accumulate.

Mobility in soil
No data available.

Other adverse effects
Environmental fate (exposure) Do not contaminate drains and waterways.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Dispose of in accordance with local authority guidelines.

Packaging disposal
Dispose of in accordance with local authority guidelines.

Waste treatment

Dispose of in accordance with local authority guidelines.

Sewage disposal
No bioaccumulation is to be expected.

Other disposal recommendations
Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

DOT (US)
UN Number: UN1198
Class: 3 (8)
Packing Group: III
Proper Shipping Name: Formaldehyde, solutions, flammable
Reportable quantity (RQ):
Marine pollutant:
Poison inhalation hazard:

IMDG
UN Number: UN1198
Class: 3 (8)
Packing Group: III
EMS Number:
Proper Shipping Name: Formaldehyde, solutions, flammable

IATA
UN Number: UN1198
Class: 3 (8)
Packing Group: III
Proper Shipping Name: Formaldehyde, solutions, flammable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Australian list of chemicals with high hazards for categorisation
Chemical name: Formaldehyde
CAS number: 50-00-0

Australian Inventory of Industrial Chemicals
Chemical name: Formaldehyde
CAS number: 50-00-0, CR number: 380

15.2 Chemical Safety Assessment
Poison Schedule: S6

SECTION 16: Other information

16.1 Further information/disclaimer
This SDS is prepared in accordance with the Safe Work Australia, Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, (2011). The information contained within is believed to be accurate at the date of preparation/review. Hurst Scientific makes no claims of the accuracy or completeness of the information and excludes all liability for any loss or damage related to the supply or use of the information in this material safety data sheet. It is recommended the user make their own determinations as to the suitability of the information provided to the application in which the product is to be used.

16.2 Preparation information

References

1. Safe Work Australia, Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, (2011).
2. Safe Work Australia, National Code of Practice for the Labelling of Workplace Hazardous Chemicals (2015).
3. Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants (2013)
4. National Transport Commission Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code); Canprint:
Canberra (2007), Volume 1, 7th Edition.
5. Standards Australia, Dangerous Goods Initial Emergency Response Guide: Australian Handbook (SAA/SNZ HB76); Homebush
(2004).