

Safety Data Sheet **FORMOL ACETO ALCOHOL**

SDS no. YBSBLC89 • Version 1.0 • Date of issue: 2024-08-21

SECTION 1: Identification

GHS Product identifier

Product name FORMOL ACETO ALCOHOL

Other means of identification

Product Product Number

Formol Aceto Alcohol Fixative Histopots AFAA
Formol Aceto Alcohol Clear AFAAC

Recommended use of the chemical and restrictions on use

Laboratory reagent.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com.au

National contact

Name Australian Biostain Pty Ltd
Address 16 Shipwright Road
5016 Largs North SA
Australia

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Serious eye damage/eye irritation, Cat. 1
- Flammable liquids, Cat. 2
- Acute toxicity, oral, Cat. 4
- Skin sensitizer, Cat. 1
- Skin corrosion/irritation, Cat. 1A
- Carcinogenicity, Cat. 1
- Acute toxicity, inhalation, Cat. 4

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

- H225
- H302
- H314
- H317
- H332
- H350

Highly flammable liquid and vapor
Harmful if swallowed
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Harmful if inhaled
May cause cancer

Precautionary statement(s)

- P210
- P233
- P240
- P241
- P242
- P243
- P260
- P271
- P272
- P280
- P301+P312
- P301+P330+P331
- P303+P361+P353
- P304+P340
- P305+P351+P338
- P310
- P333+P313
- P362+P364
- P370+P378
- P403+P235
- P405
- P501

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof [electrical/ventilating/lighting/...] equipment.

Use non-sparking tools.

Take action to prevent static discharges.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

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

IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor/physician

If skin irritation or rash occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

In case of fire: Use agents recommended in Section 5 of SDS for extinction

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Other components either not classified as Hazardous under the GHS, or below cut-off concentrations to be classified as Hazardous.

Components

Component	CAS no.	Concentration
Ethanol (EC no.: 200-578-6; Index no.: 603-002-00-5)	64-17-5	<= 85 % (weight)
CLASSIFICATIONS: Flammable liquids, Cat. 2. HAZARDS: H225 - Highly flammable liquid and vapor.		
Acetic acid (EC no.: 200-580-7; Index no.: 607-002-00-6)	64-19-7	<= 10 % (weight)
CLASSIFICATIONS: Flammable liquids, Cat. 3; Skin corrosion/irritation, Cat. 1A. HAZARDS: H226 - Flammable liquid and vapor; H314 - Causes severe skin burns and eye damage. [SCLs/M-factors/ATEs]: Skin Corr. 1A; H314: C ≥ 90 %; Skin Corr. 1B; H314: 25 % ≤ C < 90 %; Skin Irrit. 2; H315: 10 % ≤ C < 25 %; Eye Irrit. 2; H319: 10 % ≤ C < 25 %		
FORMALDEHYDE, 37% SOLUTION (EC no.: 200-001-8; Index no.: 605-001-00-5)	50-00-0	<= 7 % (weight)
CLASSIFICATIONS: Carcinogenicity, Cat. 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; Skin sensitizer, 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 %		
Methanol (EC no.: 200-659-6; Index no.: 603-001-00-X)	67-56-1	<= 2 % (weight)
CLASSIFICATIONS: Flammable liquids, Cat. 2; Acute toxicity, inhalation, Cat. 3; Acute toxicity, dermal, Cat. 3; Acute toxicity, oral, Cat. 3; Specific target organ toxicity following 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 %		
EOSIN (EC no.: 239-138-3)	17372-87-1	<= 1 % (weight)
CLASSIFICATIONS: Serious eye damage/eye irritation, Cat. 2A. HAZARDS: H319 - Causes serious eye irritation.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor (at once).
	First Aid Facilities: Maintain eyewash fountain in work area.
If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
In case of skin contact	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. If swelling, redness, blistering or irritation occurs seek medical advice.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Obtain medical attention immediately.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

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

Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Caution: Use of water spray when fighting fire may be inefficient.

Small fire: Use foam, dry chemical, CO₂ or water spray.

Large fire: Use foam, fog or water spray - Do not use water jets.

If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after fire is out.

Specific hazards arising from the chemical

Hazards from Combustion Products: Oxides of carbon, formic acid, methanol.

HIGHLY FLAMMABLE: These products have a low flash point - Will be easily ignited by heat, sparks or flames at ambient temperatures. Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Fire may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Many liquids are lighter than water. Many vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Vapours from run-off may create an explosion hazard.

Special protective actions for fire-fighters

SCBA and structural firefighter's uniform may provide limited protection. Fully-encapsulating, gas-tight suits should be worn for maximum protection.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Evacuate the area of all non-essential personnel. Remove ignition sources

Avoid inhalation, contact with skin, eyes and clothing.

Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flares, sparks or flame) within at least 50m - All equipment used in handling the product must be earthed. Do not touch or walk through spilled material. Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Vapour-suppressing foam may be used to control vapours. Absorb spill with earth, sand or other non-combustible material - Use clean, non-sparking tools to collect material and place it in loosely-covered metal or plastic containers for later disposal. Water spray may be used to knock down or divert vapour clouds.

SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid fumes. Highly Flammable Material:-

Do not use near any source of ignition.

Use only in a well ventilated area.

No smoking or eating of food in area of use.

Keep containers tightly closed at all times.

Open containers slowly to avoid sudden pressure release.

Material will accumulate Static Charge, bulk containers should be electrically grounded.

Store in a cool dry place that is well ventilated and away from direct sunlight.

Storage for greater than minimal quantities must be in an Approved Flammable Material Cabinet.

Bulk Storage greater than 200 Litres must be in an Approved Bulk Storage Store, fully banded and ventilated.

Empty containers must be filled with water and rinsed out before disposal or recommissioning.

Wear Safety glasses, gloves and protective apron.

Work in an area of good ventilation, an approved fume cupboard is preferred.

Ensure electrical devices are flash/flare proofed.

No eating or drinking in workplace, wash hands whenever leaving work area.

Conditions for safe storage, including any incompatibilities

Keep in a cool, well-ventilated place. Keep away from heat and other sources of ignition. Store away from oxidizing agents. Store away from strong acids. Keep containers securely sealed and protected against physical damage. Do not store in pits or basements where vapours may become entrapped. Do not store in aluminium containers. Take precautionary measures against static electricity discharges.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

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

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. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

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
Appearance	Thin, clear, volatile liquid.
Color	AFAA - Yellow. AFAAC - Clear.
Odor	Pungent/Alcoholic
Odor threshold	No data available.
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
Flammability	Flammable
Lower and upper explosion limit/flammability limit	Flammable Limits - Lower: 3.5% (100% ethanol) Flammable Limits - Upper: 19% (100% ethanol)
Flash point	18°C (100% ethanol)
Explosive properties	No data available.
Auto-ignition temperature	363°C (100% ethanol)
Decomposition temperature	No data available.
Oxidizing properties	No data available.

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pH
Kinematic viscosity
Solubility
Partition coefficient n-octanol/water (log value)
Vapor pressure
Evaporation rate
Density and/or relative density
Relative vapor density
Particle characteristics

Acidic
No data available.
[12] Solubility in Water: Miscible.
No data available.
No data available.
No data available.
No data available.
No data available.
No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Risk of ignition. Vapours may form explosive mixtures with air

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Hazardous Polymerization: Will not occur.

Conditions to avoid

Heat, sparks, flame and build-up of static electricity.

Incompatible materials

Oxidising agents, peroxides, acids, acid chlorides, acid anhydrides, alkali metals and ammonia.

Hazardous decomposition products

May liberate toxic fumes in fire producing carbon monoxide and or carbon dioxide, formic acid, methanol.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute Toxicity - Oral: LD50 (rat): 7060 mg/kg - Ethanol.

LD50 (rat): >200 mg/kg (Formaldehyde).

Ingestion: Harmful if swallowed. Ingestion may cause irritation of the mouth, throat and stomach resulting in nausea. In extreme cases swallowing can result in vomiting, diarrhoea, abdominal pain, convulsions, chemical burns, loss of consciousness, collapse and possible death. Risk of perforation in the oesophagus and stomach. Systemic effects: narcosis and blindness. May also cause vomiting, headache, dizziness and CNS depression.

Inhalation: Harmful if inhaled. Inhalation may lead to the formation of oedemas in the respiratory tract. Vapour is irritating to mucous membranes and the respiratory tract. Inhalation can result in headache, dizziness, possible nausea and possible CNS effects.

Skin corrosion/irritation

May cause on allergic skin reaction. Repeated or prolonged skin contact may lead to allergic contact dermatitis. A skin sensitiser. May cause irritation. Will have a degreasing action on the skin.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitisation: Not classified based on available information.

Skin Sensitisation: Formaldehyde: Known to act as a sensitiser.

Germ cell mutagenicity

Germ cell mutagenicity: Not classified based on available information.

Mutagenicity: Not classified based on available information.

Carcinogenicity

H350 May cause cancer.

Formaldehyde [50-00-0] is evaluated in the IARC Monographs (Vol. 88; in preparation) as Group 1: Carcinogenic to humans.

For addition information see IARC publication: <http://monographs.iarc.fr/ENG/Monographs/vol100F/mono100F-29.pdf>

Ethanol [61-17-5] in alcoholic beverages are evaluated in the IARC Monographs (Vol. 96) as Group 1: Carcinogenic to humans, (based on effects of drinking alcoholic beverages).

Safe Work Australia does not classify ethanol as a carcinogen.

Reproductive toxicity

Not classified based on available information.

Specific target organ toxicity (STOT) - single exposure

Not classified based on available information.

Specific target organ toxicity (STOT) - repeated exposure

Not classified based on available information.

Aspiration hazard

No data available.

Additional information

Health Hazard: Ethanol - Though it is rapidly oxidized in the body and is therefore non-cumulative, ingestion of even moderate amounts causes lowering of inhibitions, often succeeded by dizziness, headache, or nausea. Larger intake causes loss of motor nerve control, shallow respiration, and in extreme cases unconsciousness and even death. Degree of intoxication is determined by concentration of alcohol in the brain. Of primary importance is the fact that intake of moderate amounts together with barbiturates or similar drugs is extremely dangerous and may even be fatal.

Chronic Effects: Repeated or prolonged skin contact may cause chronic dermatitis. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed. May cause liver and kidney disorders.

EOSIN: *TOXICITY:

typ. dose mode specie amount units other

LDLo ipr rat 500 mg/kg

LDLo scu rat 1500 mg/kg

LD50 orl mus 2344 mg/kg

LD50 ivn mus 550 mg/kg

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LDLo ivn rbt 300 mg/kg

*AQTX/TLM96: Not available

*SAX TOXICITY EVALUATION:

THR = An experimental +/- carcinogen. MODERATE via intravenous route.

*CARCINOGENICITY:

Tumorigenic Data:

TDLo: scu-rat 13 gm/kg/1Y-I

TD : scu-rat 14 gm/kg/78W-I

Review: IARC Cancer Review: Animal Inadequate Evidence

IARC: Not classifiable as a human carcinogen (Group 3) [610]

*MUTATION DATA:

test lowest dose | test lowest dose

----- | -----

dnr-bcs 2 mg/disc |

*TERATOGENICITY (Reproductive Effects Data): Not available

*STANDARDS, REGULATIONS & RECOMMENDATIONS:

OSHA: None

ACGIH: None

NIOSH Criteria Document: None

NFPA Hazard Rating: Health (H): None

Flammability (F): None

Reactivity (R): None

*OTHER TOXICITY DATA:

Status: Reported in EPA TSCA Inventory, 1983

EPA Genetic Toxicology Program, January 1984

Meets criteria for proposed OSHA Medical Records Rule

SECTION 12: Ecological information

Toxicity

Short Summary of Assessment of Environmental Impact: No ecological problems are to be expected when the product is handled and used with due care and attention.

Persistence and degradability

Abiotic degradation: Rapid degradation. (air, formaldehyde)

Biologic degradation: Biodegradation: 97.4 % /5 d (Formaldehyde). Readily biodegradable.

COD: 1.06 g/g (Formaldehyde); TOD: 1.068 g/g (Formaldehyde)

Mobility in soil

Distribution: log p(o/w): 0.00 (Formaldehyde).

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

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

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 1993

Class: 3

Packing Group: II

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (Contains Ethanol 85%)

Hazchem emergency action code (EAC)

•3YE

IMDG

UN Number: 1993

Class: 3

Packing Group: II

EMS Number:

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (Contains Ethanol 85%)

IATA

UN Number: 1993

Class: 3

Packing Group: II

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (Contains Ethanol 85%)

SECTION 15: Regulatory information

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

Australia SUSMP

Poison Schedule: S6

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. ChemSupply Australia Pty Ltd accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.

Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

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National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'
Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.
Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.
Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019
Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au
IATA, Dangerous Goods Regulations (DGR)
IMO, International Maritime Dangerous Goods Code (IMDG)