

Safety Data Sheet
FORMALDEHYDE BUFFERED 20%

SDS no. 3KTYE16N • Version 1.0 • Date of issue: 2025-01-29

- Acute toxicity, inhalation, Cat. 4
- Acute toxicity, oral, Cat. 4
- Carcinogenicity, Cat. 1B
- Germ cell mutagenicity, Cat. 2
- Skin sensitizer, Cat. 1
- Skin corrosion/irritation, Cat. 2
- Serious eye damage/eye irritation, Cat. 2A

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands 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+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell,
P302+P352	IF ON SKIN: Wash with plenty of water/soap
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+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Information on Composition: Stabilised with methanol. Contains various salts as buffering agents.

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

Hazardous components

Component	CAS no.	Concentration
Water (EC no.: 231-791-2) (weight)	7732-18-5	84 - >= 93.5 %
CLASSIFICATIONS: No data available. HAZARDS: No data available.		
FORMALDEHYDE, 37% SOLUTION (EC no.: 200-001-8; Index no.: 605-001-00-5) (weight)	50-00-0	3.5 - <= 10 %
CLASSIFICATIONS: Carcinogenicity, Cat. 1B; Germ cell mutagenicity, Cat. 2; Acute toxicity, dermal, Cat. 3; Acute toxicity, oral, Cat. 3; Skin corrosion/irritation, Cat. 1B; Skin sensitizer, Cat. 1; Acute toxicity, inhalation, Cat. 2. 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	1 - < 4 % (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 %		
Sodium phosphate dibasic (EC no.: 231-448-7)	7558-79-4	< 1 % (weight)
CLASSIFICATIONS: No data available. HAZARDS: No data available.		
Sodium phosphate Monobasic (EC no.: 231-558-5)	7558-80-7	< 1 % (weight)
CLASSIFICATIONS: No data available. HAZARDS: No data available.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	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. Immediately obtain medical aid if cough or other symptoms appear.
In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. Give water to drink. DO NOT INDUCE VOMITING. Seek medical advice if symptoms 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

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.

Avoid getting water inside containers.

Alcohol resistant foam is preferred however fine water spray can be used.

Specific hazards arising from the chemical

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

Special protective actions for fire-fighters

Wear SCBA, fully-encapsulating, gas-tight suit and structural firefighting uniform when handling leaking or damaged containers and equipment. SCBA and chemical splash suits will offer limited protection for brief exposure provided there is no risk of ignition.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Evacuate the area of all non-essential personnel. 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

Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.

Seek expert advice on handling and disposal.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid generation of vapours/aerosols. Do not breathe vapour. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Work under hood.

Avoid exposure - obtain special instructions before use.

Conditions for safe storage, including any incompatibilities

Store in cool place and out of direct sunlight. Store away from sources of heat or ignition. Store in well ventilated area. Store away from oxidising agents, acids, alkalis, metal salts and foodstuff. Keep containers closed at all times - check regularly for leaks.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 50-00-0

FORMALDEHYDE, 37% SOLUTION

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

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.

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 and 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	No data available.
Color	No data available.
Odor	Pungent, suffocating odour.
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	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	7
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Completely miscible.
Partition coefficient n-octanol/water (log value)	Log P(oct) = 0.35 (experimental) (formaldehyde).
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	No data available.
Relative vapor density	No data available.

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Particle characteristics

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.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Hazardous Polymerization: Will not occur.

Conditions to avoid

Open flames, heat, hot surfaces, sparks and other ignition sources.

Incompatible materials

Strong oxidizing agents, strong acids, strong bases, alkali metals.

Hazardous decomposition products

Formic acid, methanol, carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute Toxicity - Oral: 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.

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 and possible nausea.

// ----- From the Suggestion report (28/02/2023, 3:53 PM) ----- //
The ATE (dermal) of the mixture is: 2884.62 mg/kg bw

// ----- From the Suggestion report (28/02/2023, 3:53 PM) ----- //
The ATE (gas inhalation) of the mixture is: 6730.77 ppmV

// ----- From the Suggestion report (28/02/2023, 3:53 PM) ----- //
The ATE (vapor inhalation) of the mixture is: 28.85 mg/l

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Skin corrosion/irritation

May cause an allergic skin reaction. Repeated or prolonged skin contact may lead to allergic contact dermatitis. A skin sensitizer.

Serious eye damage/irritation

May be an irritant to the eye.

Respiratory or skin sensitization

Formaldehyde: Known to act as a sensitizer.

Germ cell mutagenicity

Formaldehyde [50-00-0]: DNA damage system-human: fibroblast 100 mmol/l.

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

Reproductive toxicity

Formaldehyde [resp], human: one study suggests a slight percentage increase in spontaneous abortion and subtle neurobehavioral abnormalities, animal-decreased sperm motility, reduced fetal and maternal weight.

Specific target organ toxicity (STOT) - single exposure

Based on available data, classification data are not met

Specific target organ toxicity (STOT) - repeated exposure

Based on available data, classification data are not met

Aspiration hazard

Based on available data, classification data are not met

Additional information

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.

SECTION 12: Ecological information

Toxicity

Ecological Information: The following statements refer to individual components of the preparation:

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Biological Properties: Toxic for aquatic organisms. Protoplasmatic toxin. Caustic even in diluted form. Disinfectant effect. Toxic effect on fish and plankton. Sludge decomposition impaired or not possible even in diluted concentration. Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities.

Acute Toxicity - Fish: LC50 (P.promelas): 24 mg/l /96 h (Formaldehyde);
LC50 (Br.rerio): 41 mg/l /96 h (Formaldehyde).

Acute Toxicity - Daphnia: Daphnia magna EC50: ~2 mg/l /48 h (Formaldehyde).

Acute Toxicity - Algae: Maximum permissible toxic concentration: Algal toxicity: Sc.quadricauda IC5: 2.5 mg/l /8 d (Formaldehyde).

Acute Toxicity - Bacteria: Photobacterium phosphoreum EC50: 8.5 mg/l /30 min (Formaldehyde).
Bacterial toxicity: M.aeruginosa EC5: 0.39 mg/l /8 d (Formaldehyde).

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)

Bioaccumulative potential

No bioaccumulation is to be expected (log P(o/w) <1).

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.

Sewage disposal

No bioaccumulation is to be expected (log P(o/w) <1).

Other disposal recommendations

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

SECTION 14: Transport information

ADG (Road and Rail)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

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

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Preparation information

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

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)