



SAFETY DATA SHEET

Revision date 17-Nov-2021

Revision Number 1

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

Product identifier

Product Name FIXATIVE - #10498

Other means of identification

Safety data sheet number 10498

Recommended use of the chemical and restrictions on use

Recommended use For research use only

Uses advised against No information available

Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

GHS Classification

Acute toxicity - Oral	Category 4 (HSNO - 6.1D)
Acute toxicity - Dermal	Category 4 (HSNO - 6.1D)
Acute toxicity - Inhalation (Gases)	Category 4 (HSNO - 6.1D)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 (HSNO - 6.1D)
Skin corrosion/irritation	Category 1 Sub-category B (HSNO - 8.2B)
Serious eye damage/eye irritation	Category 1 (HSNO - 8.3A)
Skin sensitisation	Category 1 (HSNO - 6.5B)
Germ cell mutagenicity	Category 2 (HSNO - 6.6B)
Carcinogenicity	Category 1B (HSNO - 6.7A)
Specific target organ toxicity — single exposure	Category 1 Category 3 (HSNO - 6.1E)
Acute aquatic toxicity	Category 3 (HSNO - 9.1D)

Label elements

**Signal word**

Danger

Hazard statements

H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects
H350 - May cause cancer
H370 - Causes damage to organs
H402 - Harmful to aquatic life

Precautionary Statements - Prevention

Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapours/spray
Contaminated work clothing should not be allowed out of the workplace
Avoid release to the environment

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
Immediately call a POISON CENTRE or doctor
IF exposed or concerned: Call a POISON CENTER or doctor

Eyes

Immediately call a POISON CENTRE or doctor
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Skin

IF ON SKIN: Wash with plenty of water and soap
Call a POISON CENTRE or doctor if you feel unwell
Take off all contaminated clothing and wash it before reuse
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTRE or doctor if you feel unwell
Immediately call a POISON CENTRE or doctor

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
Rinse mouth
IF SWALLOWED: rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification**SECTION 3: Composition/information on ingredients**

Chemical name	CAS No	Weight-%
Formaldehyde	50-00-0	10 - 20
Methanol	67-56-1	2.5 - 5

Non-hazardous ingredients	Proprietary	Balance
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SECTION 4: First aid measures**Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention. May cause an allergic skin reaction.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing vapours or mists. Use personal protective equipment as required. See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. Itching. Rashes. Hives. Coughing and/ or wheezing. Difficulty in breathing.
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Indication of any immediate medical attention and special treatment needed

Note to doctors	Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitisation in susceptible persons. Treat symptomatically.
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SECTION 5: Firefighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours. Product is or contains a sensitiser. May cause sensitisation by skin contact.

Special protective actions for fire-fighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing vapours or mists.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labelled containers.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Remove contaminated clothing and shoes. Avoid

breathing vapours or mists.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up. Protect from moisture. Store away from other materials. Store according to product and label instructions.

Incompatible materials Acids. Bases. Oxidising agent.

SECTION 8: Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Formaldehyde 50-00-0	TWA: 0.5 ppm TWA: 0.33 ppm Ceiling: 1 ppm	STEL: 0.3 ppm TWA: 0.1 ppm	TWA: 2 ppm TWA: 2.5 mg/m ³ STEL: 2 ppm STEL: 2.5 mg/m ³	1 ppm 1.2 mg/m ³ 2 ppm STEL 2.5 mg/m ³ STEL
Methanol 67-56-1	TWA: 200 ppm TWA: 262 mg/m ³ STEL: 250 ppm STEL: 328 mg/m ³ Skin	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 266 mg/m ³ STEL: 250 ppm STEL: 333 mg/m ³ Sk*	200 ppm 262 mg/m ³ 250 ppm STEL 328 mg/m ³ STEL

Biological occupational exposure limits

Chemical name	New Zealand	ACGIH
Methanol 67-56-1	15 mg/L - urine (Methyl alcohol) - end of shift	15 mg/L - urine (Methanol) - end of shift

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear to semi-clear
Colour	Varies
Odour	No information available.
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Soluble in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<u>Other information</u>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

SECTION 10: Stability and reactivity

Reactivity

Reactivity	No information available.
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Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to mechanical impact	None.
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Sensitivity to static discharge	None.
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Possibility of hazardous reactions

Possibility of hazardous reactions	None under normal processing.
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Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods. Excessive heat.

Incompatible materials

Incompatible materials Acids. Bases. Oxidising agent.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information**Acute toxicity****Information on likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May cause sensitisation by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be absorbed through the skin in harmful amounts. Harmful in contact with skin.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.
Symptoms	Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes. Hives.

Acute toxicity**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	714.30 mg/kg
ATEmix (dermal)	1,985.29 mg/kg
ATEmix (inhalation-gas)	7,000.00 mg/l
ATEmix (inhalation-vapour)	1,042.40 mg/l
ATEmix (inhalation-dust/mist)	3.58 mg/l

Oral LD50	No information available
Dermal LD50	No information available
Inhalation LC50	No information available
Inhalation LC50	No information available

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Formaldehyde	= 100 mg/kg (Rat)	= 270 mg/kg (Rabbit)	= 0.578 mg/L (Rat) 4 h
Methanol	= 6200 mg/kg (Rat)	= 15840 mg/kg (Rabbit) = 15800 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Causes burns.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Risk of serious damage to eyes. Causes burns.
Respiratory or skin sensitisation	May cause sensitisation by skin contact
Germ cell mutagenicity	Contains a known or suspected mutagen. Classification based on data available for ingredients. Suspected of causing genetic defects.
Carcinogenicity	Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	New Zealand	IARC
Formaldehyde - 50-00-0	Confirmed carcinogen	Group 1

Legend

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT - single exposure	Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs if swallowed. Causes damage to organs in contact with skin. Causes damage to organs if inhaled. May cause respiratory irritation. Classification based on data available for ingredients.
Respiratory irritation	Irritant.
Narcotic effects	Based on available data, the classification criteria are not met.
STOT - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information**Ecotoxicity**

Ecotoxicity Harmful to aquatic life.

Aquatic ecotoxicity

Unknown aquatic toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Formaldehyde	-	LC50: 0.032 - 0.226mL/L (96h, Oncorhynchus mykiss) LC50: 100 - 136mg/L (96h,	EC50: 11.3 - 18mg/L (48h, Daphnia magna) LC50: =2mg/L (48h, Daphnia

		Oncorhynchus mykiss) LC50: 22.6 - 25.7mg/L (96h, Pimephales promelas) LC50: 23.2 - 29.7mg/L (96h, Pimephales promelas) LC50: =1510µg/L (96h, Lepomis macrochirus) LC50: =41mg/L (96h, Brachydanio rerio)	magna)
Methanol	-	LC50: 13500 - 17600mg/L (96h, Lepomis macrochirus) LC50: 18 - 20mL/L (96h, Oncorhynchus mykiss) LC50: 19500 - 20700mg/L (96h, Oncorhynchus mykiss) LC50: =28200mg/L (96h, Pimephales promelas) LC50: >100mg/L (96h, Pimephales promelas)	-

Terrestrial ecotoxicity

Chemical name	Earthworm	Avian	Honeybees
Methanol	Acute Toxicity: LC50 > 1 mg/cm ² (Eisenia foetida, 48 h filter paper)	-	-

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
Formaldehyde	0.35
Methanol	-0.77

Mobility in soil**Other adverse effects**

No information available.

SECTION 13: Disposal considerations**Waste treatment methods****Contaminated packaging**

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

SECTION 14: Transport information

IATA Not regulated

IMDG

Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code

No information available

SECTION 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Formaldehyde - 50-00-0	3.1C,6.1B (All),6.1B (I),6.1C (D),6.1C (O),6.5B,6.6B,6.7A,6.9B (All),6.9B (I),6.9B (O),8.2C,8.3A,9.1D (All),9.1D (C),9.1D (F),9.2A,9.3B 3.1D,6.1B (All),6.1B (I),6.1C (D),6.1C (O),6.5B,6.6B,6.7A,6.9B (All),6.9B (I),6.9B (O),8.2C,8.3A,9.1D (All),9.1D (C),9.1D (F),9.2A,9.3B 6.1D (All),6.1D (D),6.1D (I),6.1D (O),6.3A,6.4A,6.5B,6.6B,6.7A,6.9A (All),6.9A (O),6.9B (I),9.1D (All),9.1D (C),9.1D (F),9.2B,9.3C 6.1E (All),6.3A,6.4A,6.5B,6.6B,6.7A,6.9B (All),9.2B 6.3A,6.4A,6.5B,9.2B
Methanol - 67-56-1	3.1B,6.1C (All),6.1C (D),6.1C (I),6.1C (O),6.4A,6.8B,6.9A (All),6.9A (I),9.3C 3.1C,6.1C (All),6.1C (D),6.1C (I),6.1C (O),6.4A,6.8B,6.9A (All),6.9A (I),9.3C 3.1C,6.1C (All),6.1C (D),6.1C (O),6.4A,6.8B,6.9A (All),6.9A (Oth),9.3C 3.1C,6.1D (All),6.1D (D),6.1D (I),6.1D (O),6.4A,6.8B,6.9A (All),6.9A (I) 6.1E (All),6.1E (D),6.1E (I),6.1E (O),6.8B,6.9B (All),6.9B (I)

National regulations

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

EPA New Zealand HSNO approval code or group standard

Not applicable

International Inventories

Contact supplier for inventory compliance status

Legend:**International Regulations**

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

SECTION 16: Other information

Prepared By Bio-Rad Laboratories, Environmental Health and Safety

Revision date 17-Nov-2021

Revision Note Significant changes throughout SDS. Review all sections.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGl(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
 Organisation for Economic Co-operation and Development Screening Information Data Set
 RTECS (Registry of Toxic Effects of Chemical Substances)
 World Health Organization

Disclaimer

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End of Safety Data Sheet