

Material Safety Data Sheet

FORMALDEHYDE SOLUTION

Infosafe™ JXF62
No.

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BS:
1.16.8

Classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name FORMALDEHYDE SOLUTION

Company Name Thermo Fisher (ABN 64 121 927 786)

Address 5 Carribbean Drive
(PO Box 9092) Scoresby
VIC 3174

Emergency Tel. 1800 638 556 (24 hr) Aust / (NZ): 0800 154 666

**Telephone/Fax
Number** Tel: 1300 884 078

Recommended Use Disinfectant, germicide, fungicide, insecticide. Used in industry for organic chemicals, explosives, rubber, photography, tanning, resins, phenolic resins, adhesives, fabric treatment and dyes. Used in chemical analysis.

Other Names Not Available

**Other
Information** NEW ZEALAND:
Thermo Fisher Scientific New Zealand Ltd
244 Bush Road, Albany
Auckland, New Zealand
Ph: 09 980 6700
Fax: 09 980 6788
Email: NZinfo@thermofisher.com
Emergency Advice (NZ): Phone 0800 154 666

2. HAZARDS IDENTIFICATION

**Hazard
Classification** Australia:
Classified as Hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC), Australia.
Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

New Zealand:

Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
Classified as Dangerous Goods for transport, according to the New Zealand Standard NZS 5433:2007 Transport of Dangerous Goods on Land.

HSNO Classification:

3.1D - Flammable liquids: low hazard
6.1B - Substance that is acutely toxic (Inhalation - vapours)
6.1C - Substance that is acutely toxic (Dermal)
6.1C - Substance that is acutely toxic (Oral)
6.5B - Substance that is a contact sensitiser
6.6B - Substance that is a suspected human mutagen
6.7A - Substance that is known or presumed to be a human carcinogen
6.9B - Substance that is harmful to human target organs or systems (Repeated exposure, ingestion, inhalation)
8.2C - Substance that is corrosive to dermal tissue
8.3A - Substance that is corrosive to ocular tissue
9.1D - Substance that is slightly harmful to the aquatic environment or is otherwise designed for biocidal action
9.2A - Substance that is very ecotoxic in the soil environment
9.3B - Substance that is ecotoxic to terrestrial vertebrates

Hazard statement codes:

H227 Combustible liquid.
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.
H330 Fatal if inhaled.
H341 Suspected of causing genetic defects
H350 May cause cancer
H373 May cause damage to organs by ingestion or inhalation
H401 Toxic to aquatic life.
H421 Very toxic to the soil environment.
H432 Toxic to terrestrial vertebrates.

Precautionary statement codes - Prevention:

P102 Keep out of reach of children. -This statement applies only where the substance is available to the general public.
P103 Read label before use. -This statement applies only where the substance is available to the general public.
P104 Read Safety Data Sheet before use.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces.
P260 Do not breathe mist/vapours/spray.
P264 Wash 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.
P273 Avoid release to the environment. -This statement does not apply where this is the intended use.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 Wear respiratory protection.

Precautionary statement codes - Response:

P101 If medical advice is needed, have product container or label at hand. -This statement applies only where the substance

is available to the general public.

P310 Immediately call a POISON CENTER or doctor/physician.

P391 Collect spillage.

INGESTION

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P330 Rinse mouth.

P331 Do NOT induce vomiting.

INHALATION

P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

EYES

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SKIN

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

Precautionary statement codes - Storage:

P405 Store locked up.

P403+P235 Store in a well-ventilated place. Keep cool.

Precautionary statement codes - Disposal:

P501 In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided. See Section 13 for disposal details.

Risk Phrase(s) R34 Causes burns.
R43 May cause sensitization by skin contact.
R49(2) May cause cancer by inhalation.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R68/20/21/22 Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

Safety Phrase (s) S23 Do not breathe gas/fumes/vapour/spray
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S38 If insufficient ventilation, wear suitable respiratory equipment.
S45 In case of accident or if you feel unwell seek medical advice immediately
S24/25 Avoid contact with skin and eyes.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Formaldehyde	50-00-0	30-60 %

Methanol 67-56-1 0-<10 %
Ingredients Balance
determined not to
be hazardous.

4. FIRST AID MEASURES

Inhalation Avoid becoming a casualty - to protect rescuer, use air-viva, oxy-viva or one-way mask. Remove affected person from contaminated area - Apply artificial respiration if not breathing. Do not give direct mouth-to-mouth resuscitation. Resuscitate in a well-ventilated area. Seek IMMEDIATE medical attention.

Ingestion If swallowed, do NOT induce vomiting. Wash out mouth with water. Seek medical attention.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Ensure contaminated clothing is washed before re-use or discard. Seek medical attention.

Eye If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

First Aid Facilities Eye wash station, safety shower and normal washroom facilities.

Advice to Doctor Treat symptomatically.

Other Information For advice, contact a Poisons Information Centre (Phone eg Australia 131 126; New Zealand 0800 764 766) or a doctor (at once).

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media Use water spray, foam, carbon dioxide or dry chemical to extinguish fire.

Hazards from Combustion Products Under fire conditions this product may decompose and emit toxic and/or irritating fumes including carbon monoxide, carbon dioxide, hydrocarbons and formaldehyde.

Specific Hazards Combustible liquid. Keep away from naked flames, sparks and other sources of ignition.

Hazchem Code •2X

Precautions in connection with Fire Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures Wear appropriate personal protective equipment and clothing to prevent exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non-combustible material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling Toxic substance. Avoid exposure. Corrosive and combustible liquid. Attacks skin and eyes. May produce severe burns. Wear suitable protective clothing, gloves and eye/face protection when mixing and using. Exposure without protection must be prevented. Use in designated areas with adequate ventilation. Avoid breathing in vapours, mist or fumes. Keep containers closed when not in use. Ensure a high level of personal hygiene is maintained when using this product, that is, always wash hands after handling, and before eating, drinking, smoking or using the toilet facilities. Do not use near ignition sources. Do not pressurise, cut, heat or weld containers as they may contain hazardous. Prevent the build up of mists or vapours in the work atmosphere. Keep containers sealed when not in use.

Conditions for Safe Storage This material is a SCHEDULED (S6) POISON, toxic, combustible and corrosive substance and must be stored, handled and maintained according to the appropriate Commonwealth Regulations. Limit quantity of material in storage. Restrict access to storage area. Post appropriate warning signs. Consider leak detection and alarm systems, as required. Provide a catch-tank in a bunded area. Structural materials and lighting and ventilation systems in storage area should be corrosion resistant. Store in a cool, dry, well-ventilated area away from sources of ignition, oxidizing agents, strong mineral acids, bases metal and/or water. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. For information on the design of the storeroom, reference should be made to AS 3780-2008 The storage and handling of corrosive substances, AS1940 - The storage and handling of flammable and combustible liquids and AS/NZS 4452:1997 The storage and handling of toxic substances. Reference should also be made to all applicable local and national regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards No exposure value assigned for this specific material by the National Occupational Health and Safety Commission (NOHSC), Australia or the Occupational Safety and Health Service (OSH) of the New Zealand Department of Labour. However, the available exposure limits for ingredients are listed below:

National Occupational Health And Safety Commission (NOHSC),

Australia Exposure Standards:
 Substance TWA STEL NOTICES
 ppm mg/m³ ppm mg/m³
 Formaldehyde 1 1.2 2 2.5 Sen
 Methanol 200 262 250 328 Sk

National Industrial Chemicals Notification and Assessment Scheme (NICNAS), Australia recommends that NOHSC lower the current exposure standard for formaldehyde to the following:
 Substance TWA STEL NOTICES
 ppm mg/m³ ppm mg/m³
 Formaldehyde 0.3 0.36 0.6 0.72 Sen

New Zealand Occupational Safety and Health Service (OSH) Workplace Exposure Standards:
 Substance TWA STEL NOTICES
 ppm mg/m³ ppm mg/m³
 Formaldehyde 1 1.2 - - Sen, A2 Carcinogen
 Methanol 200 262 250 328 Sk

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

'Sen' Notice: The substance may cause sensitisation by skin contact or by inhalation

A2 CARCINOGEN: Suspect human carcinogen.

**Biological
 Limit Values**

No biological limit allocated.

**Engineering
 Controls**

Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a local exhaust ventilation system is required. Refer to AS1940 - The storage and handling of flammable and combustible liquids and AS2430 - Explosive gas atmospheres for further information concerning ventilation requirements.

**Respiratory
 Protection**

If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. 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.

Eye Protection

Safety glasses with side shields or face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances ie. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337- Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1:

Occupational protective gloves - Selection, use and maintenance.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Water white solution

Odour Characteristic

Melting Point Not available

Boiling Point <100°C

Solubility in Water Miscible

Solubility in Organic Solvents Miscible in alcohol and acetone

Specific Gravity 1.1 (approximate)

pH Value 2.4-4.0

Vapour Pressure Reid vapour pressure: 0.09 psia

Vapour Density (Air=1) 1.08

Odour Threshold 0.5-1ppm

Flash Point 85°C (approximate)

Flammability Combustible

Auto-Ignition Temperature 430°C

Flammable Limits - Lower 7% (formaldehyde)

Flammable Limits - Upper 73% (formaldehyde)

10. STABILITY AND REACTIVITY

Chemical Stability On storage a white deposit of paraformaldehyde may form. On standing when cold, may become cloudy. When exposed to low temperatures a precipitate of trioxymethylene may be formed.

Conditions to Avoid Heat, direct sunlight, open flames or other sources of ignition.

Incompatible Materials Strong acids, oxidants and alkalis.

Hazardous Decomposition Products Decomposition products may include toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and formaldehyde.

Hazardous Polymerization Will not occur.

11. TOXICOLOGICAL INFORMATION

Inhalation Toxic by inhalation. Corrosive. Harmful: possible risk of irreversible effects through inhalation. Symptoms may include coughing. Severe exposure may result in serious respiratory effects, such as bronchitis, pulmonary edema or pneumonia.

Ingestion Toxic if swallowed. Causes burns. Harmful: possible risk of irreversible effects if swallowed. May cause burning of the gastrointestinal system. Symptoms may include nausea, central nervous system depression, vomiting, diarrhoea, abdominal pain and burns, and possibly unconsciousness.

Skin Toxic in contact with skin. Causes burns. Harmful: possible risk of irreversible effects in contact with skin. Methanol can be absorbed through the skin with resultant toxic effects. Symptoms may include redness, blistering and scarring. Repeated or prolonged skin contact may lead to dermatitis. May cause sensitization by skin contact.

Eye Causes burns. Symptoms may include redness, excessive tearing, stinging, swelling. Contamination of the eyes can result in permanent damage.

Chronic Effects Possible risk of irreversible effects.

Carcinogenicity May cause cancer by inhalation. This substance is classified as a Category 2 Carcinogen according to National Occupational Health and Safety Commission (NOHSC). That is, there is sufficient evidence, on the basis of appropriate long term animal studies or other relevant information, to provide a strong presumption that human exposure to this substance may result in the development of cancer. Category 2 Carcinogens are substances that should be regarded as if they are carcinogenic to humans.

Formaldehyde is listed as a Group 1: Carcinogenic to humans by the International Agency for Research on Cancer (IARC). It is a known animal carcinogen and has been shown to cause cancer of the nasal passages in animals.

Formaldehyde is classified as A2 Carcinogen by the Occupational Safety and Health Service (OSH) of the New Zealand Department of Labour.

Acute Toxicity - Oral Acute toxicity data for Formaldehyde as published by RTECS (Registry of Toxic Effects of Chemical Substances):
LD50 (Oral, Rat): 100 mg/kg

Acute Toxicity - Dermal Acute toxicity data for Formaldehyde as published by RTECS (Registry of Toxic Effects of Chemical Substances):
LD50 (Dermal, Rabbit): 270 mg/kg

Acute Toxicity - Inhalation Acute toxicity data for Formaldehyde as published by RTECS (Registry of Toxic Effects of Chemical Substances):
LC50 (Inhalation, Rat): 250 ppm/4h

12. ECOLOGICAL INFORMATION

Ecotoxicity	No ecological data are available for this material.
Persistence / Degradability	Not available
Mobility	Not available
Bioaccumulative Potential	Not available
Environment Protection	Prevent this material entering waterways, drains and sewers.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	<p>Product Disposal:</p> <p>Product wastes are controlled wastes and should be disposed of in accordance with all applicable local and national regulations. This product can be disposed through a licensed commercial waste collection service. In this specific case the product is a combustible substance and therefore can be sent to an approved high temperature incineration plant for disposal. Large volumes may be re-distilled by solvent recovery contractors.</p> <p>Personal protective clothing and equipment as specified in Section 8 of this SDS must be worn during handling and disposal of this product. The ventilation requirements as specified in the same section must also be followed, and the precautions given in Section 7 of this SDS regarding handling must also be followed.</p> <p>Do not dispose into the sewerage system. Do not discharge into drains or watercourses or dispose where ground or surface waters may be affected.</p> <p>In New Zealand, the disposal agency or contractor must comply with the New Zealand Hazardous Substances (Disposal) Regulations 2001. Further details regarding disposal can be obtained on the ERMA New Zealand website under specific group standards.</p> <p>Container Disposal:</p> <p>The container or packaging must be cleaned and rendered incapable of holding any substance. It can then be disposed of in a manner consistent with that of the substance it contained. In this instance the packaging can be disposed through a commercial waste collection service.</p> <p>Alternatively, the container or packaging can be recycled if the hazardous residues have been thoroughly cleaned or rendered non-hazardous.</p> <p>In New Zealand, the packaging (that may or may not hold any residual substance) that is lawfully disposed of by householders or other consumers through a public or commercial waste collection service is a means of compliance with regulations.</p>
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14. TRANSPORT INFORMATION

Transport Information	<p>Australia:</p> <p>This material is classified as a Class 8 (Corrosive Substances) Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition). Class 8 Dangerous Goods are incompatible in a placard load with any of the following:</p> <ul style="list-style-type: none">- Class 1, Explosives- Division 4.3, Dangerous When Wet Substances- Division 5.1, Oxidising Agents- Division 5.2, Organic Peroxides- Class 6, Toxic or Infectious Substances, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids- Class 7, Radioactive Substances <p>and are incompatible with food and food packaging in any quantity.</p> <p>Strong acids must not be loaded in the same freight container or on the same vehicle with strong alkalis. Packing Group I and II acids and alkalis should be considered as strong.</p> <p>New Zealand:</p> <p>This material is classified as a Class 8 Corrosive Substance according to NZS 5433:2007 Transport of Dangerous Goods on Land.</p> <p>Must not be loaded in the same freight container or on the same vehicle with:</p> <ul style="list-style-type: none">- Class 1, Explosives- Division 5.1, Oxidising substances- Division 5.2, Organic peroxides- Class 7, Radioactive materials unless specifically exempted <p>And are incompatible with food and food packaging in any quantity.</p> <p>Note 1: Cyanides (Division 6.1) must not be loaded in the same freight container or on the same vehicle with acids (Class 8).</p> <p>Note 2: Strong acids must not be loaded in the same freight container or on the same vehicle with strong alkalis. Packing Group I and II acids and alkalis should be considered as strong.</p> <p>Must not be loaded with in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:</p> <ul style="list-style-type: none">- Class 4.3, Dangerous when wet substances <p>Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:</p> <ul style="list-style-type: none">- Class 4.3, Dangerous when wet substances- Class 5.1, Oxidising substances- Class 5.2, Organic peroxides <p>And are incompatible with food and food packaging in any quantity.</p>
U.N. Number	2209
Proper Shipping Name	FORMALDEHYDE SOLUTION
DG Class	8
Hazchem Code	•2X
Packing Group	III
IERG Number	19

15. REGULATORY INFORMATION

Regulatory Information Australia:
Classified as hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC).
Classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Poisons Schedule S6

National and or International Regulatory Information New Zealand:
Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
Group Standard: N.O.S. (Toxic [6.1, 6.7], Corrosive, Combustible) Group Standard 2006

HSNO Approval Number HSR002628

Hazard Category Toxic, Corrosive

16. OTHER INFORMATION

Date of preparation or last revision of MSDS MSDS Reviewed: January 2012
Supersedes: February 2007

Contact Person/Point For further information contact Tom Sadler on 1300 884 078 during business hours. In case of emergency call Australia 1800 638 556/ New Zealand 0800 154 666.

IMPORTANT ADVICE: This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including its use in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Ajax Finechem Pty Ltd. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

End of MSDS

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