

MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Material Name: Paraformaldehyde.
Catalogue Number: C007.
Other Names: Polyoxymethylene; Metaformaldehyde; Paraform.
Recommended Use: Used as a fixative in electron microscopy.

Supplier Name: ProSciTech
Street Address: 1/11 Carlton Street, Kirwan, Qld. 4817 Australia
Telephone Number: (07) 4773 9444 - 8:30am – 5:00pm, Monday to Friday (excluding Public Holidays)
Emergency Contact: (07) 4773 9444 - 8:30am – 5:00pm, Monday to Friday (excluding Public Holidays)

SECTION 2 - HAZARDS IDENTIFICATION

Hazard Classification:

Hazardous according to the criteria for Classifying Hazardous Substances [NOHSC:1008].

Hazardous and/or Dangerous Nature:

HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

Risk Phrases:

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R34 Causes burns.

R40 Limited evidence of a carcinogenic effect.

R43 May cause sensitisation by skin contact.

Safety Phrases:

S1/2 Keep locked up and out of reach of children.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37 Wear suitable protective clothing and gloves.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S51 Use only in well ventilated areas.

Refer to Section 15 for Poisons Schedule.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Pure Substance (Proportion 100%):

Chemical Identity: Paraformaldehyde.
Common Name(s): Polyoxymethylene; Metaformaldehyde; Paraform.
CAS Number: 50-00-0

Mixture Substance:

<i>Ingredients</i>	<i>Cas Number(s)</i>	<i>Proportion (%)</i>
Paraformaldehyde	30525-89-4	90-100
Water	7732-18-5	0-10

SECTION 4 - FIRST AID MEASURES

Ingestion: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible do not leave person unattended.

Inhalation: If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Eye Contact: If material gets into the eyes, immediately flush eyes gently with water for at least 15 minutes while holding eyelids apart. If symptoms develop as a result of vapour exposure, immediately move individual away from exposure and into fresh air before flushing as recommended above. Seek immediate medical attention.

Skin Contact: Immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. Seek medical attention. Wash clothing before reuse and discard contaminated shoes.

First Aid Facilities: Eyebath/eyewash, Safety shower & general washroom facilities.

Medical Attention & Special Treatment:

Not available.

Additional Information:

Danger may be fatal if swallowed, inhaled or absorbed through skin. Causes irritation to skin, eyes and respiratory tract. Sensitizer. Suspect cancer hazard. Emits formaldehyde which may cause cancer. Risk of cancer depends upon duration and level of exposure. Combustible solid.

SECTION 5 - FIRE FIGHTING MEASURES**Suitable Extinguishing Media:**

Water mist, carbon dioxide (CO₂), dry chemical.

Hazards from Combustion Products:

May form: carbon dioxide and carbon monoxide, various hydrocarbons.

Precautions for Fire Fighters:

Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full fire fighting turn-out gear (full bunker gear) and respiratory protection (SCBA).

Hazchem Code: 4/E

SECTION 6 - ACCIDENTAL RELEASE MEASURES**Emergency Procedures:**

Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Containment & Clean up:

Large spill: Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

Small spill: absorb liquid on vermiculite, floor absorbent, or other absorbent material and transfer to hood.

SECTION 7 - HANDLING & STORAGE**Precautions for Safe Handling:**

Wear special protective equipment. Wash hands, face, forearms, and neck when exiting restricted areas. Change to clean garments at the end of the day. Avoid dust formation and control ignition sources. Employ grounding, venting, and explosion relief provisions in accord with accepted engineering practices in any process capable of generating dust and or static electricity. Empty only into inert or non-flammable atmosphere. Emptying contents into a non-inert atmosphere where flammable vapours may be present could cause a flash fire or explosion due to static discharge. Containers of this material may be hazardous when empty since they retain product residues (dust, solids), observe all warnings and precautions listed for the product.

Precautions for Safe Storage:

Store in a tightly closed container. Protect against physical damage. Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage room or cabinet. Separate from oxidizing materials.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards: Formaldehyde CAS 50-00-0:

TWA 1ppm

TWA 1.2mg/m³

STEL 2ppm

STEL 2.5mg/m³

Biological Limit Values: No biological limit allocated.

Engineering Controls:

A system of local and or general exhaust is recommended to keep employee exposures below the airborne exposure limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Protective Equipment:

Respiratory protection: If overexposure has been determined or documented, a NIOSH approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators under specified conditions. Engineering or administrative controls should be implemented to reduce exposure.

Eye protection: Chemical splash goggles and face shield (8" min) in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. (Consult your industrial hygienist).

Skin protection: Wear impervious gloves (consult your safety equipment supplier) to prevent skin contact, wear impervious clothing and boots.

Other protective clothing or equipment: Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Work hygienic practices: See OSHA standard for more info on personal protective equipment, engineering and work practice controls. (29 CFR 1910.1048)

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Clear to white solid.
Odour:	Pungent odour.
pH:	4.3
Vapour pressure (mm of Hg at °C):	1.4mmhg at 25°C.
Vapour density:	(Air = 1): 1.03
Boiling point/range (°C):	Slowly sublimates to formaldehyde gas.
Freezing/melting point (°C):	Melting point 120-170°C.
Solubility:	Slightly soluble in cold water.
Specific gravity or density:	Not available.
Flash Point:	70°C.
Flammable (explosive) limits:	Lower limit: 7.0 Upper limit: 73
Ignition temperature:	300°C.
Additional Information:	Not available.

SECTION 10 - STABILITY AND REACTIVITY

Chemical stability:	Stable under normal conditions of use.
Conditions to avoid:	Heat, flame, ignition sources, dusting and incompatible materials.
Incompatible Materials:	Alkali metals, alkalis, amines, isocyanates, nitrogen oxides, strong mineral acids, strong oxidizing agents.

Hazardous Decomposition Products:

May form: dioxide and carbon monoxide, formaldehyde, hydrogen, various hydrocarbons.

Hazardous Reactions: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Exposure and Health Effects:

Danger may be fatal if swallowed, inhaled or absorbed through skin. Causes irritation to skin, eyes and respiratory tract. Sensitizer. Suspect cancer hazard. Emits formaldehyde which may cause cancer. Risk of cancer depends upon duration and level of exposure. Combustible solid. Prolonged and repeated contact may cause allergic dermatitis or asthma. May harm the kidneys. Pre-existing respiratory or allergic conditions may be aggravated in some individuals by exposure to fumes and gases., pre-existing disorders of the following organs (or organ systems) may be aggravated by exposure to this material; skin, lung (for example, asthma-like conditions), eye.

Ingestion:

Swallowing this material may be harmful. Exposure causes severe irritation of the gastrointestinal tract. Severe stomach pains will follow with possible loss of consciousness.

Inhalation:

This material is a dust or may produce dust. Breathing of dust, vapor and/or fume is possible. Breathing this material may be harmful.

Eye Contact:

Can cause severe eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure eye tissue.

Skin Contact:

Can cause severe skin irritation. Prolonged or repeated contact may include redness, burning, and drying and cracking of skin, skin burns, and other skin damage. Additional symptoms of skin contact may include: abnormal colouring of the skin allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects).

Human/Animal data: Acute oral toxicity- paraformaldehyde Id 50 rat: 800mg/kg
Acute dermal toxicity –paraformaldehyde Id 50 rabbit: 10,000 mg/kg

Carcinogenic Category: Group 1: Carcinogenic to humans.

Other Carcinogenic Information: Not available.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:	No data available.
Persistence and degradability:	No data available.
Mobility:	No data available.
Additional Information:	No data available.

SECTION 13 - DISPOSAL CONSIDERATIONS**Disposal Methods:**

Destroy by liquid incineration with off-gas scrubber. Do not discharge effluent containing this product into lakes, streams, ponds, or estuaries, oceans or other waters unless in accordance with the requirements of a national pollutant discharge elimination system permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority.

Special Precautions/Additional Informational:

Dispose of in accordance with Local, State and Federal regulations.

SECTION 14 - TRANSPORT INFORMATION

UN Number:	UN2213
UN Proper Shipping Name:	Paraformaldehyde
Class and Subsidiary risk:	4.1
Packing Group:	PG III
Special Precautions for User:	Not available.
Hazchem Code:	4ZE

SECTION 15 - REGULATORY INFORMATION

Poison Schedule Number: None Allocated.

SECTION 16 - OTHER INFORMATION

Date of preparation of MSDS: April 11

Comments:**List of Publications referenced when creating this MSDS;**

- Hazardous Substances Information System Consolidated Lists: Safe Work Australia.
- APPROVED CRITERIA FOR CLASSIFYING HAZARDOUS SUBSTANCES [NOHSC:1008(2004)] 3rd Edition: National Occupational Health and Safety Commission.
- Dangerous Goods - Initial Emergency Response Guide (SAA/SNZ HB76:1997).
- IATA Dangerous Goods Regulations.
- Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)].
- Australia Standard for the Uniform Scheduling of Drugs and Poisons [SUSPD] (Australian Government Department of Health and Ageing).

This Material Safety Data Sheet (MSDS) has been prepared in compliance with the National code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)]. It is the user's responsibility to determine the suitability of this information for adoption of necessary safety precautions. The information published in this MSDS has been compiled from the publications listed in Section 16: to the best of our ability and knowledge these publications are considered accurate. We reserve the right to revise Material Safety Data Sheets as new information becomes available. Copies may be made for non-profit use.

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