Fisher Scientific CANADA
A Fisher Scientific International Company

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Identification:

Key: 18000
Name: Paraformaldehyde

Catalog Numbers:

NC9576177, NC9618476, NC9660528, NC9920507, NC9953590, O4042-500, S70102, S80114, T353-500

Synonyms:

Polyformaldehyde; Polyoxymethylene; Formaldehyde polymer; Polyoxymethylene glycol; Trioxymethylene.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410

For information, call:

201-796-7100

Emergency Number:

201-796-7100

For CHEMTREC assistance, call:

800-424-9300

For International CHEMTREC assistance, call:

703-527-3887

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	%	EINECS#	Haz Symbols	Risk Phrases
30525-89-4	Paraformaldehyde	>90	unlisted		

Hazard Symbols: XN

Risk Phrases: 20/22 36/37/38 40 43

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance: white powder. Flash Point: 70 deg C. Danger! Flammable solid. Harmful if inhaled. May cause allergic skin reaction. May be harmful if swallowed. May be absorbed through intact skin. Causes eye, skin, and respiratory tract irritation.

Target Organs: Respiratory system, eyes, skin.

POTENTIAL HEALTH EFFECTS

Eye: May result in corneal injury. Causes severe eye irritation and burns.

Skin: May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause hives. Causes severe skin irritation and possible burns. Contact with dust causes drying, cracking, and scaling of the skin.

Ingestion:

Symptoms may include: headache, excitement, fatigue, nausea, vomiting, stupor, and coma. May cause systemic toxicity with acidosis. May cause severe digestive tract irritation with abdominal pain, nausea, vomiting and diarrhea. May be harmful if swallowed.

Inhalation: May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation. May cause anosmia (loss of smell). Inhalation of high concentrations may cause pulmonary edema. Harmful if inhaled.

Chronic: Prolonged or repeated eye contact may cause conjunctivitis. Repeated inhalation may cause chronic bronchitis. Repeated exposure may cause sensitization dermatitis.

SECTION 4 - FIRST AID MEASURES

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat exposed person for anion gap acidosis. Treatment for ingestion includes gastric lavage with water or saline until clear, followed by activated charcoal with saline or sorbitol catharsis.

SECTION 5 - FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Dusts at sufficient concentrations can form explosive mixtures with air. Combustion generates toxic fumes. Flammable solid. May re-ignite after fire is extinguished. May burn rapidly with flare-burning effect.

Extinguishing Media: For large fires, use water spray, fog or regular foam. For small fires, use dry chemical, carbon dioxide, sand, earth, water spray or regular foam. Cool containers with flooding quantities of water until well after fire is out.

Autoignition Temperature: 300 deg C (572.00 deg F)

Flash Point: 70 deg C (158.00 deg F)

Explosion Limits, lower: 7.00 vol %

Explosion Limits, upper: 73.00 vol %

NFPA Rating: (estimated) Health: 3; Flammability: 1; Instability: 0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

SECTION 7 - HANDLING AND STORAGE

Handling: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Minimize dust generation and accumulation. Do not get on skin or in eyes. Do not ingest or inhale.

Storage: Keep away from heat and flame. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed. Keep away from strong bases.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

EXPOSURE LIMITS

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Paraformaldehyde	none listed	none listed	none listed

OSHA Vacated PELs:

Paraformaldehyde: No OSHA Vacated PELs are listed for this chemical.

PERSONAL PROTECTIVE EQUIPMENT

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Powder

Color: white

Odor: formaldehyde - pungent odor

pH: 4-6

Vapor Pressure: 1.2 mm Hg @ 25 deg C

Vapor Density: 1.03 (air=1)

Evaporation Rate: Negligible

Viscosity: Not available.

Boiling Point: Decomposes

Freezing/Melting Point: 120 - 170 deg C

Decomposition Temperature: 260 deg C

Solubility in water: Soluble in hot water.

Specific Gravity/Density: 1.46

Molecular Formula: Polymer of CH2O

Molecular Weight: 30.03

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability: Stable, however, can decompose above 260°C.

Conditions to Avoid: Dust generation, temperatures above 160°C.

Incompatibilities with Other Materials: Strong oxidizing agents, strong reducing agents, acids, strong bases, anhydrides, brass, bronze, copper, copper alloys, liquid oxygen, steel, isocyanates.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, formaldehyde.

Hazardous Polymerization: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 30525-89-4: RV0540000

LD50/LC50:

CAS# 30525-89-4: Draize test, rabbit, eye: 100 mg Severe; Draize test, rabbit, skin: 500 mg/24H Severe; Inhalation, rat: LC50 = 1070 mg/m3/4H; Oral, rat: LD50 = 800 mg/kg. Inhalation, rat: LC50 = 1070

Carcinogenicity:

Paraformaldehyde -

Not listed by ACGIH, IARC, or NTP.

Epidemiology:

The epidemiological studies provide inadequate evidence to assess the carcinogenicity of formaldehyde in man.

Teratogenicity:

No teratogenic were effects observed. The data were insufficient to adequately evaluate the teratogenic potential of this compound.

Reproductive Effects:

No embryotoxic effects were observed. The data were insufficient to adequately evaluate the embryotoxic potential of this compound. Secondary sterility and menstrual disorders have been attributed to formaldehyde exposure.

Neurotoxicity:

No information available.

Mutagenicity:

Morphological Transformation: Rat, Embryo = 2200 ng/plate.One positive and one negative study on the induction of dominant lethal mutations by formaldehyde have been reported.

Other Studies:

Standard Draize Test: Administration onto the skin (rabbit) = 500 mg/24H (Severe). Standard Draize Test: Administration into the eye (rabbit) = 100 mg (Severe).

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Fish: Channel catfish: TLm = 32 ppm; 24 Hr; Fresh water (Unspecified)Paraformaldehyde hydrolyzes as it dissolves in water, and its solutions behave like methanol-free formaldehyde solutions. Formaldehyde forms a strongly acidic aqueous solution, and this property may cause adverse environmental effects. It is readily biodegradable and it is not likely to bioconcentrate.

Other

Harmful to aquatic life in very low concentrations.

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

SECTION 14 - TRANSPORT INFORMATION

US DOT

Shipping Name: PARAFORMALDEHYDE Hazard Class: 4.1 UN Number: UN2213 Packing Group: III

Canadian TDG

No information available.

USA RQ: CAS# 30525-89-4: 1000 lb final RQ; 454 kg final RQ

SECTION 15 - REGULATORY INFORMATION

US FEDERAL

TSCA

CAS# 30525-89-4 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs

CAS# 30525-89-4: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS# 30525-89-4: acute, chronic, flammable.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 30525-89-4 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

Paraformaldehyde can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Massachusetts.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN Risk Phrases:

R 20/22 Harmful by inhalation and if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.
R 40 Limited evidence of a carcinogenic effect.
R 43 May cause sensitization by skin contact.

Safety Phrases:

S 24 Avoid contact with skin.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 30525-89-4: 2

Canada

CAS# 30525-89-4 is listed on Canada's DSL List. This product has a WHMIS classification of B4, D2B.
CAS# 30525-89-4 is listed on Canada's Ingredient Disclosure List.

SECTION 16 - ADDITIONAL INFORMATION

MSDS Creation Date: 6/25/1999 **Revision #**3 **Date:** 4/09/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.