Material Safety Data Sheet
Paraformaldehyde

ACC# 18000

Section 1 - Chemical Product and Company Identification

MSDS Name: Paraformaldehyde
Catalog Numbers: O4042 500, O4042-500, O4042500, O4042500001, S70102, S80114, T3 T353500
Synonyms: Flo-mor, Formagene, Paraforsn; Triformol; 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

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>30525-89-4</td>
<td>Paraformaldehyde</td>
<td>95%</td>
</tr>
</tbody>
</table>

Hazard Symbols: T
Risk Phrases: 23/24/25 43

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Target Organs: None.
Potential Health Effects

Eye: May result in corneal injury. May cause eye irritation and possible burns.
Skin: May be absorbed through the skin in harmful amounts. Prolonged and/or repeated contact irritation and/or dermatitis. May cause hives. May cause severe skin irritation with possible burns if wet or moist.
Ingestion: Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Include: headache, excitement, fatigue, nausea, vomiting, stupor, and coma. May cause severe irritation with abdominal pain, nausea, vomiting, and diarrhea.
Inhalation: May cause severe irritation of the upper respiratory tract with pain, burns, and infarction damage. May cause anosmia (loss of smell). Inhalation of high concentrations may cause bronchitis. Prolonged or repeated eye contact may cause conjunctivitis. Repeated inhalation may cause permanent eye damage.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. In the event of contact lenses, remove lenses after touching the eyes and continue flushing.
Skin: Get medical aid immediately. Rinse area with large amounts of water for at least 15 minutes. Remove contaminated clothing and shoes.
Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2–4 cupfuls of milk or other non-toxic liquid by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Get medical aid immediately. Remove from exposure to fresh air immediately. If artificial respiration is necessary, give oxygen.
Notes to Physician: Inhalation of high concentrations can cause pulmonary edema. Treatment includes gastric lavage with water or saline until clear followed by activated charcoal with saline. Treat exposed person for anion-gap acidosis. Concurrently monitor blood methanol levels. Follow standard procedures for the treatment of methanol poisoning. (Genium MSDS 492, Rev. A, July 91)

Section 5 - Firefighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand (approved or equivalent), and full protective gear. Detergent products can form toxic fumes.
Extinguishing Media: In case of fire, use water, dry chemical, or alcohol-resistant foam. Detergent products can form toxic fumes.
Autoignition Temperature: 572 deg F (300.00 deg C)
Flash Point: 160 deg F (71.11 deg C)
NFPA Rating: health:3; flammability:1; reactivity:0
Explosion Limits, Lower: 7.00 Upper: 73.0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Sweep up, then place into a suitable container for disposal. Avoid generating dust. Remove all sources of ignition.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Use only in a well ventilated area. Avoid skin contact and eye exposure. Avoid ingestion and inhalation. Wash clothing before reuse.
Storage: Keep away from heat and flame. Store in a cool, dry place. Keep containers tightly closed.

Section 8 - Exposure Controls, Personal Protection
Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paraformaldehyde</td>
<td>none listed</td>
<td>none listed</td>
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</tbody>
</table>

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 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: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Appearance: white
Odor: aldehyde-like
pH: 4-6
Vapor Pressure: 1.2 mm Hg
Vapor Density: 1.03
Evaporation Rate:
Viscosity: Not available.
Boiling Point: Decomposes
Freezing/Melting Point: 120 - 170 °C
Decomposition Temperature: 260 °C
Solubility: 250 g/l (20 °C)
Specific Gravity/Density: 1.46 at 15°C
Molecular Formula: Polymer of CH2O
Molecular Weight:

Section 10 - Stability and Reactivity

Chemical Stability: Stable. However, may decompose if heated.
Conditions to Avoid: High temperatures, incompatible materials.
Incompatibilities with Other Materials: Strong acids; strong bases; acid anhydrides; brass; agents; strong reducing agents; steel. On contact with water, material decomposes to form for Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#: 
CAS# 30525-89-4: RV0540000
LD50/LC50:
CAS# 30525-89-4:
Oral, rat: LD50 = 800 mg/kg;
Carcinogenicity:
CAS# 30525-89-4: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: The epidemiological studies provide inadequate evidence to assess the carcinogenic potential in man.
Teratogenicity: No teratogenic effects were observed. The data were insufficient to adequate teratogenic potential of this compound.
Reproductive Effects: No embryotoxic effects were observed. The data were insufficient to assess the embryotoxic potential of this compound. Secondary sterility and menstrual disorders have formaldehyde exposure.
Neurotoxicity: No data available.
Mutagenicity: One positive and one negative study on the induction of dominant lethal mutati have been reported.
Other Studies: Allergic sensitization which can result in dermatitis or acute or chronic respira associated with exposure to formaldehyde.

Section 12 - Ecological Information

Ecotoxicity: Not available.
Environmental Fate: Not available.
Physical/Chemical: Not available.
Other: Not available.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.
RCRA D-Series Maximum Concentration of Contaminants: None listed.
RCRA D-Series Chronic Toxicity Reference Levels: None listed.
RCRA F-Series: None listed.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

<table>
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<th>US DOT</th>
<th>IATA</th>
<th>RID/ADR</th>
<th>IM</th>
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<td>No information available.PARAFO</td>
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<td>4.1(9.</td>
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<tr>
<td>UN Number: UN2213</td>
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<tr>
<td>Packing Group: III</td>
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<td>III</td>
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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

Section 302 (RQ)
CAS# 30525-89-4; final RQ = 1000 pounds (454 kg)

Section 302 (TPQ)
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 depleters. This material does not contain any Class 2 Ozone depleters.

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

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

**STATE**
CAS# 30525-89-4 can be found on the following state right to know lists: California, New Jersey, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

**Europe Regulations**
European Labeling in Accordance with EC Directives

**Hazard Symbols:**

**Risk Phrases:**
R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R 43 May cause sensitization.

**Safety Phrases:**
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In contact with skin, wash immediately with plenty of ... (to be specified by the manufacturer).

**WGK (Water Danger/Protection)**
CAS# 30525-89-4: 2

**Canada**
CAS# 30525-89-4 is listed on Canada’s DSL/NDSL List.
This product has a WHMIS classification of B4, D2B.
CAS# 30525-89-4 is not listed on Canada’s Ingredient Disclosure List.

**Exposure Limits**

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**Section 16 - Additional Information**

**MSDS Creation Date:** 3/06/1995

**Revision #5 Date:** 12/12/1997

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