

MSDS

PARAFORMALDEHYDE

PRODUCT INFORMATION

CHEMICAL NAME: Paraformaldehyde
SYNONYM(S): Paraform, polyoxymethylene, metaformaldehyde
CHEMICAL FAMILY: Aldehyde polymer
MOLECULAR FORMULA: Polymer
SHIPPING NAME: Paraformaldehyde, solid
PIN - (UN/NA): 2213 (packing group iii)
WHMIS: B.4, D.1B

PRODUCT USE:

Fungicides, bactericides, and disinfectants; adhesives; hardener and waterproofing agent for gelatins.

MANUFACTURER: Univar
Telephone: (Chemtrec- 800-424-9300)

SUPPLIER: Panther Industries Inc.
Box 698
Davidson, Sask. S0G 1A0

EMERGENCY TELEPHONE NUMBER: (306)567-2814

HAZARDOUS INGREDIENTS

INGREDIENTS:	WEIGHT %	C.A.S. REGISTRY #
Paraformaldehyde	95-97	30525-89-4

PHYSICAL DATA

PHYSICAL STATE: Solid (very fine solid powder.)

ODOUR AND APPEARANCE:

White flaky solid with strong, pungent, formaldehyde odour. Powerful, unpleasant, acrid with ester-like odour.

ODOUR THRESHOLD: Not available

VAPOUR PRESSURE: Not applicable

VAPOUR DENSITY: (air=1) 1.03

EVAPORATION RATE: Not available

pH: acidic

BOILING POINT: N/A

MELTING POINT: 120°C

MOLECULAR WEIGHT: Not available

SOLUBILITY IN WATER: Partial

SPECIFIC GRAVITY: (water-1) 1.45

% VOLATILE BY VOLUME: Not available **PARTICLE DENSITY:** 1.4 g/ml

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

FIRE AND EXPLOSION DATA

CONDITIONS OF FLAMMABILITY: Flammable

MEANS OF EXTINGUISHING:

Use CO₂, or dry chemical for small fires, alcohol-type aqueous film-forming foam for large fires. Do not use water.

FLASH POINT: 70°C Tag closed cup ASTM D 56

UPPER FLAMMABLE LIMIT: (% in air) 43.0

LOWER FLAMMABLE LIMIT: (% in air) 7.0

AUTO IGNITION TEMPERATURE: The lowest known value is 300°C

HAZARDOUS COMBUSTION PRODUCTS: Not available

SPECIAL FIRE FIGHTING PROCEDURES:

Wear self-contained breathing apparatus and complete personal protective equipment when potential for exposure to vapors or products of combustion exists. Use water spray to cool nearby fire-exposed structures and vessels.

EXPLOSION HAZARDS:

Extinguish all nearby sources of ignition. This product may form an explosive organic dust cloud.

REACTIVITY DATA**STABILITY:** Stable**HAZARDOUS POLYMERIZATION:** Will not occur**INCOMPATIBILITY:**

Acids, alkalis, anhydrides, isocyanates, urea, phenol, and oxidizing material.

HAZARDOUS REACTIONS/DECOMPOSITIONS:

May liberate carbon monoxide and carbon dioxide, formaldehyde, and hydrogen.

CONDITIONS TO AVOID: Heat, sparks, and open flames.**HEALTH HAZARD DATA****INHALATION:**

Vapours and mists are highly irritating to the upper throat and lungs with bronchopneumonia and edema possible from extremely irritation exposure. May cause sensitization, or an allergic reaction of the respiratory tract.

SKIN CONTACT:

Dust can cause drying, cracking and scaling. Repeated or prolonged contact causes hardening (tanning). May cause contact allergic dermatitis.

EYE CONTACT:

Vapours and dust causes tearing and severe irritation. Dust causes severe burns.

INGESTION:

Causes severe irritation and inflammation of mouth, throat, and stomach. Severe stomach pain follows, with possible loss of consciousness.

CHRONIC EFFECTS OF EXPOSURE:

No specific information available on paraformaldehyde. However, formaldehyde, its decomposition product, has been evaluated and the results of a mortality study of long term employees of a formaldehyde producer showed no evidence that formaldehyde causes cancer or other serious chronic health effects. There is no evidence of reproductive effects in animal studies.

EXPOSURE LIMITS:ACGIH TLV(OSHA PEL) 1ppm, ACHIGH(OSHA) 2 STEL (Celanese)
0.5 TWA 8 hr. (action level) Check local regulations as they may differ**IRRITANCY:** Moderate**MUTAGENICITY:**

Although there is no specific information available on paraformaldehyde, its decomposition product, formaldehyde is mutagenic in laboratory tests, but not in laboratory animals at inhalation exposures of up to 25 ppm. Rats exposed to 15 ppm of formaldehyde for 24 months developed nasal cancer.

CARCINOGENICITY:

The IARC and the NTP fourth annual report on carcinogens consider formaldehyde gas carcinogenic in animals but there is inadequate evidence for those agencies to assess its carcinogenicity to man. OSHA does not regulate formaldehyde gas as a carcinogen.

SENSITIZATION TO PRODUCT: Not available**REPRODUCTIVE TOXICITY:**

Formaldehyde showed no evidence of reproductive effects in animal studies (mice, rats, dogs).

TOXICOLOGICALLY SYNERGISTIC MATERIALS: Not available**TERATOGENICITY DATA:** Not available**ANIMAL TOXICITY DATA:**LD50-oral: 680 mg/kg(rat)
LD50-dermal:>2 g/kg(rabbit)
LC50: 1.1 mg/l/4H(rat)

FIRST AID MEASURES**INHALATION:**

Remove patient from contaminated area. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact a physician immediately.

SKIN CONTACT:

Remove contaminated clothing and wash contaminated skin with large amount of water and non-abrasive soap. If irritation persists, consult a physician.

EYE CONTACT:

Flush eyes with water for at least 15 minutes. Do not use an eye ointment. Contact physician immediately.

INGESTION:

Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention. INDUCE VOMITING by sticking finger in throat.

PREVENTATIVE MEASURES**RESPIRATORY PROTECTION:**

Use full-face approved organic vapour cartridge or canister respirator within limitations (NIOSH approved). In all other situations use self contained breathing apparatus.

SKIN PROTECTION:

Use impervious body covering and boots where spills or splashes may occur. Handle with gloves made of neoprene or rubber. A safety shower and eye bath should be available.

EYE/FACE PROTECTION: Chemical goggles and full face shield.

PROTECTIVE CLOTHING:

Long sleeved shirt, trousers, safety shoes, rubber gloves and rubber apron.

SPECIAL HANDLING PROCEDURES:

When transferring follow proper grounding procedures. Use with adequate ventilation. Avoid breathing dust and vapour. Avoid contact with eyes, skin, and clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use. Discard contaminated leather clothing. Do not enter storage area unless adequately ventilated.

STORAGE REQUIREMENTS:

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place. Provide emergency exhaust.

ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

SPECIAL SHIPPING REQUIREMENTS: UN 2213 Class 4.1(9.2) PG II

OTHER PRECAUTIONS:

Ensure safety shower and eye wash are readily available. Containers, even those that have been emptied, will retain product residue and vapours. Always obey hazard warnings and handle empty containers as if they were full.

ENVIRONMENTAL PROTECTION DATA**STEPS IN THE EVENT OF A LEAK OR SPILL:**

Wear protective equipment including rubber boots, rubber gloves, rubber apron, and a self contained breathing apparatus in the pressure demand mode or a supplied air respirator. If the spill or leak is small, a full facepiece air purifying cartridge respirator equipped for particulate filters/acid gases may be satisfactory. In any event, always wear eye protection. For small spills, sweep up and dispose of in a DOT approved waste container. Keep out of sewers, storm drains, surface waters, and soil. Comply with all applicable government regulations on spill reporting.

ENVIRONMENTAL EFFECTS: Not available

DEACTIVATING CHEMICALS: Ammonium hydroxide or sodium sulphite.

ENVIRONMENTAL PROTECTION DATA-continued**WASTE DISPOSAL METHODS:**

Preferred method is incineration or biological treatment in federal/provincial facility. Product must be disposed of properly under applicable regulations for industrial waste.

NOTE: Empty containers can have residues, gases and mists and are subject to proper waster disposal.

PREPARATION INFORMATION

MSDS PREPARED BY: Technical Department
Panther Industries Inc.

TELEPHONE NUMBER: (306) 567-2814

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REFERENCES:

1. Manufacturer's MSDS.
Validated by Hardev Bendick on Verified by Hardev Bendick
Questions regarding non emergency questions for MSDS 1-866-686-4827