



Safety Data Sheet

Section 01 - Identification

Product Identifier	Paraformaldehyde
Other Means of Identification	Granuform, paraformaldehyde n-powder, paraformaldehyde n-granules, polyoxymethylene, polyoxymethylene glycols, paraform polyoxymethylene.
Product Use and Restrictions on Use	Fungicides, bactericides, disinfectant, adhesives, hardener, waterproofing agent for gelatins.
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
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Section 02 - Hazard Identification

GHS-Classification

Acute Toxicity-Oral	Category 4
Acute Toxicity-Inhalation	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1
Respiratory Sensitizer	Category 1

Physical Hazards

Flammable Solid	Category 2
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Danger

Hazard Statements

H302 – Harmful if swallowed.
H332 – Harmful if inhaled.
H315 – Causes skin irritation.
H318 – Causes serious eye damage.
H317 – May cause an allergic skin reaction.
H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H228 – Flammable solid.

Pictograms



Precautionary Statements

P210 – Keep away from heat, sparks, open flames, and hot surfaces. — No smoking.

P240 – Ground/bond container and receiving equipment.

P241 – Use explosion-proof electrical, ventilating, lighting, and equipment.

P280 – Wear protective gloves, protective clothing, eye protection, and face protection.

P261 – Avoid breathing dust and gas.

P271 – Use only outdoors or in a well-ventilated area.

P284 – Wear respiratory protection.

P362 – Take off contaminated clothing and wash before reuse.

P272 – Contaminated work clothing should not be allowed out of the workplace.

P370 + P378 – In case of fire: Use water spray, powder, alcohol-resistant foam, carbon dioxide for extinction.

P264 – Wash hands thoroughly after handling.

P270 – Do not eat, drink or smoke when using this product.

P301 + P312 – IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 – Rinse mouth.

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

P310 – Immediately call a POISON CENTER or doctor/physician.

P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.

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

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

P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Paraformaldehyde	30525-89-4	≤ 100%	
Formaldehyde	50-00-0	Off-gas (paraformaldehyde will off-gas formaldehyde)	

Section 04 - First Aid Measures

Inhalation	Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
Skin Contact / Absorption	Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.
Eye Contact	Contact lenses should never be worn when working with this product. Flush immediately with water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.
Ingestion	If individual is drowsy or unconscious, do not give anything by mouth. Place individual on their left side with head down. Only induce vomiting after consultation with a physician, medical facility or poison control center. Seek immediate medical attention.
Additional Information	Note to physician: observe for latent pulmonary edema.

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media	Use water spray, powder, alcohol-resistant foam, carbon dioxide.
Unsuitable Extinguishing Media	Not Available
Specific Hazards Arising From the Chemical	May form formaldehyde, carbon monoxide, carbon monoxide, hydrocarbons.
Special Protective Equipment for Fire-Fighters	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
Further Information	If material is on fire or involved in a fire: Use water in flooding quantities as fog. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Solid streams of water may be ineffective. Use "alcohol" foam, dry chemical or carbon dioxide.

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Prevent material from entering sewers. Flush with water to remove any residue. Avoid dust formation. Avoid breathing vapours, mist, gas or dust. Remove all sources of ignition.
Environmental Precautions	Do not let product enter the environment.
Methods and Materials for Containment and Cleaning Up	Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Spills can be neutralized with ammonium hydroxide or sodium sulphite. Then store and dispose of according to local regulations.

Section 07 - Handling and Storage

Precautions for Safe Handling	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Use protective equipment when opening containers as product will decompose to formaldehyde.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated place and away from sources of ignition and incompatible materials. Avoid storage in direct sunlight. Material decomposes to formaldehyde depending on time and temperature. Recommended storage temperature: 2 -8 °C. Keep tightly closed.
Incompatibilities	Alkali metals, alkalis, amines, isocyanates, nitrogen oxides, strong mineral acids, oxidizers, acid anhydrides. Product decomposes upon contact with water.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Formaldehyde	ACGIH	TLV	0.3ppm
	OSHA	PEL	2ppm STEL

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
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Other Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

Hand Protection Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Skin and Body Protection Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Impervious boots of chemically resistant material should be worn at all times

Respiratory Protection Use full-face NIOSH approved formaldehyde or acid gas cartridge or canister respirator with particulate filter within the limitations of these devices. Use self-contained breathing apparatus in all other situations.

Thermal Hazards Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State Solid

Colour White, free flowing prill

Odour Pungent

Odour Threshold Not Available

Property

pH 5.0 (+/- 1.51)

Melting Point/Freezing Point 120-170°C

Initial Boiling Point and Boiling Range Not Available

Flash Point 70°C (Tag closed cup)

Evaporation Rate Not Available

Flammability Flammable solid.

Upper Flammable Limit 73%

Lower Flammable Limit 7%

Vapour Pressure (mm Hg, 20°C) 10.5mmHg at 25°C

Vapour Density (Air=1) 1.03 (formaldehyde)

Relative Density Not Available

Solubility(ies)	Dispersible in water Soluble in fixed alkali hydroxide solution; insoluble in alcohol, ether.
Partition Coefficient: n-octanol/water	Not Available
Auto-ignition Temperature	300°C
Decomposition Temperature	120-180°C
Viscosity	Not Available
Explosive Properties	Above 71°C explosive vapour/air mixtures may be formed. Finely dispersed particles form explosive mixtures in air.
Specific Gravity (Water=1)	0.88 at 25°C
% Volatiles by Volume	Not Available
Formula	(CH ₂ O) _n ·H ₂ O
Molecular Weight	Not Available

Section 10 - Stability and Reactivity

Reactivity	This product decomposes on contact with water or moist air to formaldehyde.
Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	Polymerization will not occur.
Conditions to Avoid	Exposure to moisture. Heat, flames and sparks. Extremes of temperature and direct sunlight.
Incompatible Materials	Alkali metals, alkalis, amines, isocyanates, nitrogen oxides, strong mineral acids, oxidizers, acid anhydrides. Product decomposes upon contact with water.
Hazardous Decomposition Products	Decomposition products can include formaldehyde, carbon monoxide, hydrocarbons and hydrogen.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD ₅₀	Dermal LD ₅₀	LC ₅₀
Paraformaldehyde	592mg/kg (rat)	10,000mg/kg (rabbit)	1070mg/m ³ (rat, 4hr)
Formaldehyde	100mg/kg (rat)	270mg/kg (rabbit)	203mg/m ³ (rat, 2hr)

Chronic Toxicity – Carcinogenicity

Component	IARC
Formaldehyde	Group 1: Carcinogenic to humans.

Skin Corrosion/Irritation	Highly irritating to skin. Prolonged exposure to skin may cause skin burns, blistering, scaling and dryness.
Serious Eye Damage/Irritation	Severe eye irritation. May cause irreversible eye damage.
Ingestion	Causes severe irritation and inflammation of the gastrointestinal tract. Severe stomach pains follow with possible loss of consciousness.

Inhalation	May cause irritation to nose, throat, lungs and airways. May cause an allergic reaction involving narrowing of air passages of the lungs in some sensitive individuals. May also cause lung edema (fluid buildup in lungs). Onset of symptoms may be delayed.
Respiratory or Skin Sensitization	May cause allergic skin reaction.
Germ Cell Mutagenicity	Formaldehyde is considered mutagenic.
Reproductive Toxicity	No data available for assessing any hazards to fetus from maternal exposure to material.
STOT-Single Exposure	May cause respiratory irritation.
STOT-Repeated Exposure	Not Available
Aspiration Hazard	Not Available
Synergistic Materials	Not Available

Section 12 - Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Paraformaldehyde	Not Available	LC ₅₀ (Oncorhynchus mykiss, 96hr): 60mg/L	EC ₅₀ (Daphnia magna, 24hr): 42mg/L
Biodegradability	Paraformaldehyde breaks down in water to form formaldehyde.		
Bioaccumulation	Not Available		
Mobility	Not Available		
Other Adverse Effects	Not Available		

Section 13 - Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transport Information

UN Number	UN 2213	
UN Proper Shipping Name	PARAFORMALDEHYDE	
Transport Hazard Class(es)	4.1	
Packaging Group	III	
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.	
Special Precautions	Not Available	
Transport in Bulk	Not Available	
Additional Information	<u>Packing Group</u>	<u>Limited Quantity Index</u>
	III	5 Kg

TDG

Other

Secure containers (full and/or empty) with suitable hold down devices during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 - Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 - Other Information

Preparation Date

August 10, 2015

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

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If you have any questions or concerns please call our customer service center.

References:

- 1) CHEMINFO
- 2) eChemPortal
- 3) TOXNET
- 4) Transportation of Dangerous Goods Canada
- 6) HSDB
- 7) ECHA

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