



MATERIAL SAFETY DATA SHEET

PARAFORMALDEHYDE

SECTION I : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : Paraformaldehyde grade 91 – 97%
 (Prill & Powder)

Synonym : Polyformaldehyde, ; Polyoxymethylene;
 Trioxymethylene

Empirical Formula : HO-(C-H₂-O)_n-H

UN No : 2213 , Flammable Solid
CAS# : 30525-89-4
RTECS : RV0540000
Hazchem Code : 1Z

Contact Information:

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SECTION II : HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Flammable solid. Harmful if inhaled. May cause allergic skin reaction. May be harmful if swallowed. Target Organs: Respiratory system, eyes and skin.

POTENTIAL HEALTH EFFECTS

Eye: May result in corneal injury or blindness. Causes severe eye irritation, burns, redness and watering.

Skin: May cause skin sensitization, hives, severe skin irritation and possible burns. Contact with dust causes drying, cracking, and scaling of the skin. The amount of tissue damage depends on length of contact.

Ingestion: May be harmful if swallowed. May cause severe digestive tract irritation with inflammation of the mouth, throat and stomach, Symptoms may include: headache, nausea, vomiting, diarrhea, fatigue, stupor, and coma Prolonged ingestion may affect the kidneys.

Inhalation: May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation of the lining of the nose, throat and lungs. Inhalation of high concentrations may cause loss of smell, pulmonary edema, lung damage, choking, unconsciousness or death. Repeated or prolonged inhalation may cause asthma.

SECTION III : COMPOSITION AND INFORMATION ON INGREDIENTS

Name	CAS#	% by weight
Paraformaldehyde	30525-89-4	91 - 97

SECTION IV : 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). Cold water may be used, check for & remove any contact lenses.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. May use disinfectant soap. Cover the irritated skin with an emollient/anti-bacterial cream.

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

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

SECTION V : FIRE AND EXPLOSION DATA

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

Auto ignition Temperature: 300 deg C (572.00 deg F)

Flash Point: Above 71 deg C (160 deg F) closed cup

Flammable Limits, Lower: 7.00 vol. %

Flammable Limits, Upper: 73.00 vol. %

NFPA Rating (estimated) : Health: 3; Flammable: 2; Instability: 0

Extinguishing Media: For large fires, use water spray, fog or regular foam. For small fires, use dry chemical, carbon dioxide, sand or earth. Cool containers with flooding quantities of water in order to prevent pressure build-up, auto-ignition or explosion.

SECTION VI : ACCIDENT 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 or water spray may be used. Prevent entry into sewer, basements or confined areas. Dike if needed.

SECTION VII : 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. Wear suitable respiratory equipment in case of insufficient ventilation. Minimize dust generation and accumulation. Do not get on skin or in eyes. Do not ingest or inhale.

Storage: Keep away from heat, flame or ignition sources. Smoking is strictly prohibited. Store in a cool, dry, well-ventilated area away from incompatible substances such as oxidizing agent, reducing agent, acids, & strong base. Keep containers tightly closed. Packaging in polypropylene woven bags with loose inner polyethylene liner: 25 kg, 500 kg & 1000 kg net.

SECTION VIII : 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. Use process enclosures.

EXPOSURE LIMITS:

Chemical Name	ACGIH	NIOSH	OSHA – Final PELs
Paraformaldehyde	None listed	None listed	None listed

OSHA Vacated PEL's:

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, boots.

Clothing: Wear appropriate protective clothing to prevent skin exposure, synthetic apron.

Respirators: Approved/certified vapor and dust respirator. Self contained breathing apparatus, if needed. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 is to be followed whenever workplace conditions warrant respirator use.

SECTION IX : PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Solid (free flowing granules, prill or fine powder.)

Odor: Pungent. (Slight.)

Taste: Not available.

Color: White.

pH of 10% aqueous solution: 3 - 7

Boiling Point: Not available

Viscosity: Not available

Melting Point: 120 – 170 deg. C

Decomposition temperature: 260 C

Critical Temperature: Not available.

Specific Gravity: Density: 1.46 (Water = 1)

Vapor Pressure: 1.2 mm Hg @ 25 deg C

Vapor Density: 1.03 (Air = 1)

Solubility: Sparingly soluble

SECTION X : STABILITY AND REACTIVITY

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

Conditions to Avoid: Dust generation, temperatures above 160°C, ignition sources (spark, flame, Friction), incompatible material.

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

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

Hazardous Polymerization: Will not occur.

SECTION XI : TOXICOLOGICAL INFORMATION

RTECS: RV0540000

Routes of Entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 800 mg/kg [Rat].

Acute inhalation toxicity of the dust (LC50): 1070 mg/m³/4 hour [Rat].

Lowest Published Lethal Dose:

LDL [Rabbit] - Route: skin; Dose: 10000 mg/kg.

Toxicity to Human (Chronic Effects):

Neurotoxicity: No information available.

Mutagenicity: The data were insufficient to adequately evaluate the mutagenic potential of this compound.

Carcinogenicity: Not listed by ACGIH or IARC.

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

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

Reproductive effects: None identified.

Other Studies: Standard Draize test : Administration onto the skin (rabbit) = 500 mg / 24 hrs(severe), Standard Draize test : Administration onto the eye (rabbit) = 100 mg (severe),

SECTION XII : 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 bio-concentrate.

SECTION XIII : DISPOSAL CONSIDERATION

Waste must be disposed of in accordance with local environmental control regulations or USEPA guidelines using a registered waste disposal contractor.

SECTION XIV : TRANSPORT INFORMATION

US DOT

Shipping Name: PARAFORMALDEHYDE , Hazard Class: 4.1 , UN Number: UN 2213 , Packing Group: III , Flammable solid,

IMDG code- Page 4164

SPECIAL PROVISIONS FOR TRANSPORT : Not available

SECTION XV : REGULATORY INFORMATION

HMIS (U.S.A)

Health Hazard: 3

Fire Hazard: 2

Reactivity: 0

Personal Protection: J

Health Hazard	3
Fire Hazard	2
Physical Hazard	0
Personal Protection	J

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A):

Health: 3

Flammability: 2

Reactivity: 0



TSCA

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

SARA

Section 313

No chemicals are reportable under section 313

OSHA:

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

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).

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

EINECS : Unlisted

GLBOBALLY HARMONIZED SYSTEM (GHS)

GHS Pictogram :



Signal Word : DANGER

Hazard Statements

H228 : Flammable Solid

H315 : Causes skin irritation

H319 : Causes serious eye irritation

H332 : Harmful If inhaled.

H302: Harmful if swallowed.

H370 : Cause damage to organs (lung); May cause respiratory irritation
or may cause drowsiness and dizziness (respiratory tract irritation)

H402 : Harmful to Aquatic Life

H412 : Harmful to aquatic life with long lasting effects

Precautionary Statements

P102: Keep out of reach of children.

P210 : Keep away from heat/sparks/open flame/hot surfaces.-No smoking.

P240 : Ground/Bond Container and receiving equipment.

P241 : Use explosion proof electrical/lighting/ventilating equipment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P358: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P370+P378 : In case of fire use Water spray/foam/DCP for extinction.

P403 +P235 : Store in well ventilated place. Keep cool

P501 : Dispose of contents/container in accordance with local/regional/national
International regulation.

Supplementary information

Dust at sufficient concentration can form explosive mixture with air.

SECTION XVI : OTHER INFORMATION

References: Not available.

Other Special considerations: Not available.

Last Updated: August 2014.

Information Contact: Technical Services Department.

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