

Section 1. Product and Company Identification

**Product Name** Paraformaldehyde  
**CAS Number** 30525-89-4

**Parchem - fine & specialty chemicals**  
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Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**

**CLP Classification** - Regulation (EC) No 1272/2008

**Physical Hazards**

Flammable solids Category 2

**Health Hazards**

Acute oral toxicity Category 4

Acute Inhalation Toxicity - Dusts and Mists Category 4

Skin Corrosion/irritation Category 2

Serious Eye Damage/Eye Irritation Category 1

Skin Sensitization Category 1

Carcinogenicity Category 2

Specific target organ toxicity - (single exposure) Category 3

Environmental Hazards

Based on available data, the classification criteria are not met

**GHS Label Elements**

**Pictograms:**



**Signal word:** Danger

**Hazard and precautionary statements**

**Hazard Statements**

H228 - Flammable solid

H302 - Harmful if swallowed

H315 - Causes skin irritation



- H335 - May cause respiratory irritation
- H351 - Suspected of causing cancer
- H317 - May cause an allergic skin reaction
- H332 - Harmful if inhaled
- H318 - Causes serious eye damage

**Precautionary Statements**

- P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 - Immediately call a POISON CENTER or doctor/ physician
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

**Symbol(s)**

- F - Highly flammable
- Xn - Harmful

**R-phrases(s)**

- R11 - Highly flammable
- R40 - Limited evidence of a carcinogenic effect
- R41 - Risk of serious damage to eyes
- R43 - May cause sensitization by skin contact
- R20/22 - Harmful by inhalation and if swallowed
- R37/38 - Irritating to respiratory system and skin

**Other Hazards:** No information available.

Section 3. Composition / Information on Ingredients

**Common Name** Paraformaldehyde  
**Formula** (CH<sub>2</sub>O)<sub>n</sub>  
**CAS Number** 30525-89-4

COMPONENT	CAS NUMBER	CONCENTRATION
Paraformaldehyde	30525-89-4	> 90%

Section 4. First Aid Measures

**Description of First Aid Measures**

**General Advice:** If symptoms persist, call a physician.

**Eye Contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.



**Skin Contact:** Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

**Ingestion:** Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

**Protection of First-aiders:** Use personal protective equipment.

**Most Important Symptoms and Effects, both Acute and Delayed:** Breathing difficulties. May cause allergic skin reaction. Causes eye burns. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

**Indication of any Immediate Medical Attention and Special Treatment Needed**

**Notes to Physician:** Treat symptomatically.

Section 5. Firefighting Measures

**Extinguishing Media**

**Suitable Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

**Extinguishing Media which must not be used for Safety Reasons:** No information available.

**Special Hazards arising from the Substance or Mixture:** Flammable. Containers may explode when heated.

**Hazardous Combustion Products:** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

**Advice for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6. Accidental Release Measures

**Personal Precautions, Protective Equipment and Emergency Procedures:** Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions:** Should not be released into the environment.

**Methods and Material for Containment and Cleaning Up:** Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal. Remove all sources of ignition.

**Reference to Other Sections:** Refer to protective measures listed in Sections 8.

## Section 7. Handling and Storage

**Precautions for Safe Handling:** Wear personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition.

**Conditions for Safe Storage, including any Incompatibilities:** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition.

## Section 8. Exposure Controls / Personal Protection

### Control Parameters

**Exposure Limits:** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological Limit Values:** This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

### Monitoring Methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

MDHS70 General methods for sampling airborne gases and vapors

**Route of Exposure:** Oral, dermal, inhalation

**Predicted No Effect Concentration (PNEC):** No information available.

### Exposure Controls

**Engineering Measures:** Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimize release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

### Personal Protective Equipment

**Eye Protection:** Goggles (European standard - EN 166)

**Hand Protection:** Protective gloves

**Glove Material:** Natural rubber, Nitrile rubber, Neoprene, PVC

**Breakthrough Time:** See manufacturers recommendations

**Skin and Body Protection:** Long sleeved clothing. Inspect gloves before use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitization effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove gloves with care

avoiding skin contamination.

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

**Large Scale/Emergency Use:** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced..

**Recommended Filter type:** Particulates filter conforming to EN 143.

**Small Scale/Laboratory Use:** Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended Half Mask:** Particle filtering: EN149:2001

When RPE is used a face piece Fit Test should be conducted.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental Exposure Controls** No information available.

#### Section 9. Physical and Chemical Properties

##### Information on Basic Physical and Chemical Properties

**Appearance:** White

**Physical State:** Solid

**Odor:** Pungent

**Odor Threshold:** No data available

**pH:** 3.5 - 5.0 (10% susp.)

**Melting Point/Range:** 120 - 170°C / 248 - 338°F

**Softening Point:** No data available

**Boiling Point/Range:** No information available

**Flash Point:** 71°C / 159.8°F

**Evaporation Rate:** Not applicable

**Flammability (Solid, Gas):** No information available

**Explosion Limits Lower:** 7% vol

**Upper:** 73% vol

**Vapor Pressure:** 1.2 mmHg at 25 °C

**Vapor Density:** Not applicable

**Specific Gravity / Density:** 1.46

**Bulk Density:** No data available

**Water Solubility:** Difficult solubility

**Solubility in Other Solvents:** No information available

**Autoignition Temperature:** 300°C / 572°F

**Decomposition Temperature:** No data available

**Viscosity:** Not applicable

Section 10. Stability and Reactivity

**Reactivity:** None known, based on information available.

**Chemical Stability:** Stable under normal conditions.

**Hazardous Polymerization:** Hazardous polymerization does not occur.

**Hazardous Reactions:** None under normal processing.

**Conditions to Avoid:** Incompatible products; Excess heat; Avoid dust formation; Keep away from open flames, hot surfaces and sources of ignition.

**Incompatible Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

Section 11. Toxicological Information

**Information on Toxicological Effects**

**Product Information**

**Acute Toxicity**

**Oral:** Category 4

**Dermal:** No data available

**Inhalation:** Category 4

**Component:** Paraformaldehyde

**LD50 Oral:** 800 mg/kg (Rat)

**LC50 Inhalation:** 1070 mg/m<sup>3</sup> (Rat) 4 h

**Skin Corrosion/Irritation:** Category 2

**Serious Eye Damage/Irritation:** Category 1

**Respiratory or Skin Sensitization**

**Respiratory:** No data available

**Skin:** Category 1

**Germ Cell Mutagenicity:** Mutagenic effects have occurred in experimental animals.

**Carcinogenicity:** Category 2

There are no known carcinogenic chemicals in this product

**Reproductive Toxicity:** No data available

**STOT-Single Exposure:** Category 3

**STOT-Repeated Exposure:** No data available

**Target Organs** Eyes, Skin, Respiratory system.



**Aspiration Hazard:** Not applicable

**Other Adverse Effects:** Carcinogenic effects have been reported in experimental animals. The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information

**Symptoms / Effects, both Acute and Delayed:** Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

Section 12. Ecological Information

**Toxicity**

**Ecotoxicity Effects** Do not empty into drains.

**Component:** Paraformaldehyde

**Freshwater Fish:** > 10 mg/L 96h

**Water Flea:** EC50 = 42 mg/L 24h

**Persistence and Degradability:** Expected to be biodegradable

**Bioaccumulative Potential:** No information available.

**Mobility in Soil:** No information available.

**Results of PBT and vPvB Assessment:** No data available for assessment

**Other Adverse Effects**

**Endocrine Disruptor Information:** This product does not contain any known or suspected endocrine disruptors

**Persistent Organic Pollutant:** This product does not contain any known or suspected substance

**Ozone Depletion Potential:** This product does not contain any known or suspected substance

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT**

**UN Number:** 2213

**UN Proper Shipping Name:** PARAFORMALDEHYDE

**Transport Hazard Class(es):** 4.1

**Packing Group:** III

**IMDG/IMO**

**UN Number:** 2213

**UN Proper Shipping Name:** PARAFORMALDEHYDE

**Transport Hazard Class(es):** 4.1

**Packing Group:** III

**IATA**

**UN Number:** 2213

**UN Proper Shipping Name:** PARAFORMALDEHYDE

**Transport Hazard Class(es):** 4.1

**Packing Group:** III

**Environmental Hazards:** No hazards identified

**Special Precautions for user:** No special precautions required

**Transport in Bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable, packaged goods

Section 15. Regulatory Information

**Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture**

**Component**

**EINECS:** Paraformaldehyde

**ELINCS:** Not listed

**NLP:** Not listed

**TSCA:** Listed

**DSL:** Listed

**NDSL:** Not listed

**PICCS:** Listed

**ENCS:** Listed

**IECSC:** Listed

**AICS:** Listed

**KECL:** Listed

**National Regulations**

**Component:** Paraformaldehyde

**Germany - Water Classification (VwVwS):** WGK 2

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work





**Chemical Safety Assessment:** A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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