

## Paraformaldehyde possesses the common characteristics with a wide range of applications

Paraformaldehyde is the smallest solid form of liquid formaldehyde, formed by the polymerization of formaldehyde with a typical degree of polymerization of 8-100 units. As paraformaldehyde is basically a condensed form of formaldehyde, it possesses the common characteristics with a wide range of applications.

### Packaging & Handling

PP-PE bag: 25 KG net, 500kg jumbo bags other packaging sizes by request.

### Specification

Specification	Unit	Result
Appearance		White Powder
Assay (as Formaldehyde)	wt%	Min. 96
Ash Content	wt%	Max. 0.1
Acidity (As Formic Acid)	wt%	Max. 0.02
Fe( Iron )	ppm	Max. 20
Water Insoluble	wt%	Max. 0.1
Average Chain Length	(-CH <sub>2</sub> O-)n	8 – 100
Melting range	°C	120 – 170
Flash Point	°C	71
Mesh Size		100-3000 Micron US Mesh 6-140 0.1- 3.0 mm
pH of 10% aqueous solution		5 - 7

## Advantages of paraformaldehyde in resin production as compared to aqueous formaldehyde

- \*. Paraformaldehyde does not need to be dissolved in water in order to take part in a chemical reaction.( Para does not needs to extra water in the similar Formalin process)
- \*. Higher productivity from existing equipment and less water to be removed from the resin products.( Specially in MF , UF and PF resins)
- \*. Paraformaldehyde made with very low acid content in a chemical resistant environment can prevent the formation of acidic by-products.
- \*. Paraformaldehyde storage is stable and very easy, also is less expensive than the storage of formaldehyde solution, which requires expensive tanks and which may need stabilization or be kept warm.
- \*. It eliminates the risk of transporting liquid formalin, which is notoriously dangerous. Perfect for small uses straight from the bag.
- \*. Use of paraformaldehyde is convenient and safe. It avoids pollution arising from the disposal of the distillate obtained in the thermosetting resin production which is contaminated with organic matter.

# Applications

## Resins Industry

The most important use of paraformaldehyde is as a source of formaldehyde groups in the production of many thermosetting resins, together with phenol, urea, melamine, resorcinol and other similar reagents. These resins are used as molding powders; in the wood industry as glues for chipboard, plywood and furniture; as bonding resins for brakes, abrasives and foundry dyes; as finishing resins for paper and textiles; as driers and glossing agents for paints; as insulating varnishes for electrical parts.

## Embalming Process

Formalin is used during embalming processes as a disinfectant and preservative. It is used as an injection fluid in arterial and cavity embalming, and in surface embalming as a fluid for soaking surface packs or a gel applied to the skin or internal surfaces. Paraformaldehyde, a powdered polymer form of formaldehyde, is also sometimes used in embalming processes.

## Disinfectant

Paraformaldehyde generates formaldehyde gas when it is depolymerized by heating. The depolymerized material reacts with the moisture in the air to form formaldehyde gas. This process is used for the decontamination of large spaced and laminar-flow biological safety cabinets when maintenance work or filter changes require access to the sealed portion of the cabinet. It is used in the poultry industry as a disinfectant in the hatcheries, and cattle and sheep industry for sanitizing the bedding in the sheds. It releases formaldehyde gas when the temperatures increase. It reduces contamination levels caused by molds, viruses and bacteria.

## Reagent for Organic Reactions

In microbiology laboratories, fixation process (immunofluorescence) uses formalin 4% concentration. A blog by researchers mentioned that preparing this solution “fresh” from paraformaldehyde is better than using formalin that has been kept for some time. It is because more methylene glycol is present compared to its dimer and trimer oligomers and such solution of formalin 4% is absent of methanol.

## Oil Well Drilling Chemicals

Paraformaldehyde is used in the manufacturing of 1, 3,5-triazine used as H<sub>2</sub>S scavenger in Oil drilling process.

## Agriculture and Pesticides

Most paraformaldehyde consumed by the agrochemicals industry is for the herbicides such as bismethiazol, butachlor, acetochlor, glyphosate, and machete.

### Application keywords

- Thermosetting resins
- Coating resins, Enamels
- Glyphosate
- Disinfectants, insecticides & pesticides
- Fungicide and bactericide
- Ion exchange resins
- Abrasives
- Pharmaceuticals
- Textile dyes & special plasticizers
- Automotive paints and Staving finishes
- Electro coatings and water born finishes
- Ink industries

## Safety Information

Symbol



[GHS02, GHS05, GHS07, GHS08](#)

Signal word

Danger

Hazard statements

[H228-H302 + H332-H315-H317-H318-H335-H341-H351-H412](#)

Precautionary statements

[P210-P261-P280-P301 + P312 + P330-P305 + P351 + P338 + P310-P370 + P378](#)

Personal Protective Equipment

[Eye shields, Face shields, full-face particle respirator type N100 \(US\), Gloves, respirator cartridge type N100 \(US\), type P1 \(EN143\) respirator filter, type P3 \(EN 143\) respirator cartridges](#)

RIDADR

UN 2213 4.1 / PGIII

WGK

2

RTECS

RV0540000

Flash Point

158 °F - 70 °C