

# What is FORMALDEHYDE?

Formaldehyde is a colorless, flammable, strong-smelling chemical that is used in building materials and to produce many household products. In addition, formaldehyde is commonly used as an industrial fungicide, germicide, and disinfectant, and as a preservative in mortuaries and medical laboratories. Formaldehyde also occurs naturally in the environment. It is produced in small amounts by most living organisms as part of normal metabolic processes.

Formaldehyde has been classified as a known human carcinogen (cancer-causing substance) by the International Agency for Research on Cancer and as a probable human carcinogen by the U.S. Environmental Protection Agency

## Trade Names

There are many different names for formaldehyde. Some of these include:

- Formalin
- Oxomethane
- Methaldehyde
- Oxymethylene
- Methanal
- Paraform
- Methyl Aldehyde
- Paraformaldehyde
- Methylene Glycol
- Paraform Morbacid
- Methylene Oxide

## Are All Aldehydes Bad?

Not all aldehydes are bad. Aldehydes are produced naturally and are often found in water and food products. Some aldehydes, however, are formaldehyde donors/releasers. A formaldehyde donor/releaser is an aldehyde that slowly releases formaldehyde. The following aldehydes are just some of the formaldehyde releasers often used in cosmetics:

- Quaternium-15
- 2-Bromo-2-nitropropane-1,3-diol
- Amyl Cinnamal
- DMDM Hydantoin
- Vanillin
- Imidazolidinyl Urea
- Diazolidinyl Urea

# Other Known Carcinogenic Aldehydes

*Acetaldehyde* aka Ethanal, Acetic Aldehyde, Ethyl Aldehyde

*Gluteraldehyde* aka Pentanedial, Glutardialdehyde, Glutaric acid dialdehyde, Glutaric aldehyde, Glutaric dialdehyde, 1,5-Pentanedial

## What's Acceptable?

Both the Cosmetic Ingredient Review (CIR) and Health Canada allow the use of Formaldehyde as a preservative in cosmetics at a level of no more than 0.2%

## Formaldehyde & Keratin Treatments

Most keratin treatments use formaldehyde or an aldehyde acting as a formaldehyde donor/releaser (ie. Those that claim "No Formaldehyde Added") as the active ingredient to perform the desired smoothing and straightening effects. The higher the level of formaldehyde used the better the results will be.

Many of these popular treatments have been tested by [Health Canada](#) and/or the [Oregon OHSA](#) with results showing levels as high as 40 times greater than the allowable 0.2%. [These treatments](#), along with several others have now been banned in Canada. It should be noted that formaldehyde poses the greatest health risk when inhaled (i.e. when heated during the application process, and subsequently when showering and heat styling hair).

## LIQUID KERATIN

Both of the Liquid Keratin<sup>®</sup> retail treatments as well as the Liquid Keratin<sup>®</sup> Professional Restorative Smoothing Treatment have been independently tested by Exova Laboratories. Formaldehyde, Acetaldehyde, and Gluteraldehyde were not detected in any of the three formulas.