Formaldehyde

You have shown a positive allergic reaction to Formaldehyde. You should avoid any contact with this substance. Information about this substance is below.

What is it?
Formaldehyde is a colorless gas that is widely used in many products in the environment. It is used as a preservative, as a germ killer, in the making of clothing, plastics, paper, fiberboard, plywood and in many other uses.

Many people have become sensitized to formaldehyde; therefore, manufacturers have replaced formaldehyde with formaldehyde-releasing preservatives (FRPs) in order to decrease sensitization and lower the concentration of formaldehyde. These FRPs include:

- Quaternium-15
- Diazolidinyl urea (Germall II)
- DMDM hydantoin (Glydant)
- Imidazolidynyl urea (Germall)
- 2-bromo-2-nitropropane-1,3-diol (Bronopol)
- Tris nitromethane (Tris Nitro) Tris Nitro is an industrial biocide and is not usually found in skin, hair or cosmetic product

How can I avoid it?
Skin contact with formaldehyde is required for this to cause a rash. Avoid contact with items that list formaldehyde as an ingredient on the label. If you are exposed at the workplace, it is possible to find sources of formaldehyde by looking on material safety data sheets (MSDS), which are kept in the work place.

People who work in industries, such as paper making, embalmers, morticians, medical students, and individuals who handle materials contaminated with formaldehyde, may be exposed. Particular industries may have unique exposures requiring investigation. Subsequent protective clothing or avoidance measures, such as a change in job, may be necessary to prevent dermatitis.

Fumes of formaldehyde will not cause difficulty because the concentration is so low. If your rash is in skin exposed to air and most sensitive areas of the exposed skin are a prominent part of your problem, then fumes of formaldehyde may be of concern. Smoke from fires or cigarettes will contain formaldehyde.

Formaldehyde-sensitive individuals can acquire dermatitis from many paper products, including newspaper, magazines, books, paper towels, tissues, paper plates and cups, art paper, and photography paper.

A prominent source of exposure is in permanent-press clothing. Many of the textile fabrics are treated with a finish to help maintain their shape. These finishes frequently contain Formaldehyde. Clothing labels do not indicate the use of formaldehyde. Patients who are allergic to formaldehyde usually have dermatitis in a clothing distribution with involvement of any of the following areas: upper aspect of the back, arms, under arms, and back of the thighs.

- Avoid any clothing or bedding that indicates "easy care" properties.
- Avoid any clothing that is a cotton/synthetic blend (eg, cotton/polyester, cotton/nylon)
- Purchase clothing from retailers who adhere to the Japanese formaldehyde release standards (eg, Eddie Bauer, Gap, Banana Republic, and Old Navy).
- Be highly suspicious of uniforms or clothing provided by employers.
- Add nonfat powdered milk to the detergent when doing laundry.
- Wash all new clothing, sheets, and towels before use.

Most 100% polyester fabrics are safe, but those made from mixtures of fibers, such as polyester and cotton, are not. Certain 100% cotton knits may contain finishes with low levels of formaldehyde, but not all 100% cotton fabrics are formaldehyde free. Avoiding textiles with formaldehyde resins can be accomplished by not wearing permanent press, wrinkle, crease resistant, or wash-and-wear labeled fabrics. Static, water, mildew resistant and flame-retardant fabrics should also be avoided.

High Formaldehyde Fabrics:

- 100% treated fabrics including cotton, linen, wool (treated fabrics are usually marketed as permanent press, wash & wear, wrinkle-resistant, anti-cling, or shrink-proof)
- Cotton and polyester blends, and any other synthetic fabrics blended with natural fibers
- 100% rayon
- Corduroy
Low Formaldehyde fabrics:
- 100% synthetic fabrics such as
  - 100% nylon
  - 100% polyester
  - 100% polyester knit
  - 100% ultra suede
  - 100% Acetate
  - 100% Acrylics (Orlon, Creslan, Zephran)
- 100% Nylon (Dacron, Fortrel, Avlin, Trivera, Quintesse)
- 100% Triacetate
- 100% untreated natural fabrics (determining if the fabric is untreated can be difficult)
  - cotton denim (i.e. Levi Strauss & Co’s “501” “shrink to fit” button blue jeans)
  - 100% linen that wrinkles
  - 100% silk
  - 100% wool (isolated reports of treatment with formaldehyde resins)

Makeup and many other cosmetic products may contain formaldehyde if a formaldehyde-releasing preservative is included in the formulation. When using cosmetics, label reading is a must. Some individuals must also avoid formaldehyde-releasing preservatives.

Uses:
- Carpets
- Cleansers / Detergents
  - Dishwashing liquids
  - Dry cleaning spotting agents
  - Rug
- Clothing treatments
  - Anti-cling
  - Anti-shrink
  - Anti-wrinkle, wrinkle resistant
  - Durable press
  - Leather tanning agents
  - Moth, mildew and sweat proof
- Coatings for fabric, wood, metal, electrical materials
  - Cashew nutshell-type resins
  - Melamine
  - Phenol
- Combustion products
  - Automobile exhaust
  - Cigarette smoke
- Coolants
- Cosmetics / Skin Care Products
  - Antiperspirants / Deodorants
  - Fingernail hardeners and polish
  - Hair sprays, gels, tonics and lotions
  - Hair Colorants / “Permanents-Relaxers”
  - Soaps / Cleansers
  - Shampoos / Conditioners
- Oral care products
  - Mouthwash
- Dairy products preservatives
- Deodorizers and disinfectants
  - Hairdresser instrument disinfectants
- Embalming fluid and fixatives / Pathology tissue fixatives
- Explosives manufacturing products
- Fumigators and air fresheners (used to remove odors or pests)
  - Formaldehyde
  - para-Formaldehyde
- Glues / Adhesives
  - Cements for paper cups and plywood
  - Pastes, including library and school pastes
- Insulation (urea formaldehyde foam)
- Medications / Medical Care
• Dental work
  - instrument care
  - denture materials
  - topical Medications
    - Anhidrotics (anti-sweating medicines)
    - Denatured alcohol
    - Formital (a throat astringent)
    - Methenamine USP (Mandelamine, Methenamine, Tetraiodide, Helmitol, Hexalet, Silixchin, Argolamal, Felemine Urised)
  - Wart remedies
• Orthopedic casts
• Renal dialysis unit
• Root canal preparation disinfectant (Formo Cresol)
• Metal working fluids
• Mildew preventative in fruits and vegetables
• Paints
  - Anti-corrosion paint
  - Finger paint
  - Model toy and gloss enamels
• Paper and wet-strength tissues, tissues, and paper towels made water-resistant with gelatin and starch
• Paper manufacturing
• Photography
  - Hardeners and toners
  - Hypo-test solutions
  - Papers
• Plastic tools and resins
• Polishes
  - Automobile
  - Cement floor
• Printing
  - Etching materials
  - Inks (marking)
• Resins (phenolic) and plastics (urea)
  - Plastic buttons
  - Jewelry
• Rubber Products (contain formaldehyde derivatives as preservatives and coagulants)
• Silver and gold recovery reducing agent
• Wood composites and particle boards (contain glues that may contain formaldehyde derivatives)

Other names for Formaldehyde:
• Formalin
• p-Formaldehyde (solid)
• Methanol
• Oxymetholone
• Methylene oxide
• Methyl aldehyde
• HCHO
• Formic aldehyde
• Oxomethane
• Formal
• Oxymethylene
• Morbicid
• Veracur
• methylene glycol
• formalin 40
• BFV
• Fannoform
• Formalith
• FYDE
• HOCH
• Karsan
• Lysoform
• Superlysoform
• Methan 21
• Melamine-Formaldehyde Resin.

Potential cross-reacting/co-reacting substances:
• 2-Bromo-nitropropane-1,3-diol (bronopol)
• Dowicil 75
• Germall 11 (diazolidinyl urea)
• Germall 115 (imidazolidinyl urea)
• Glydant [DMDM (dimethylolmethyl) hydantoin]
• Grotan BK
• Grotan HD2
• Myacide BT
• Onyxide 200
• Quatnium 15
• Toluene sulfonamide formaldehyde resin
• Triadine-10
• Tris Nitro
• Tris nitro [tris (hydroxymethyl) nitromethane]
• Vancide TH