



## STOP USING OPTICAL BRIGHTENERS

For years, laundry detergent companies have been fighting to win the title of "brightest whites and colors." In order to make your fabrics appear cleaner and brighter, many popular companies use what are known as "optical brighteners" in their detergent formulas. But what exactly are optical brighteners? How do they work, and what environmental repercussions can stem from their use?

### What are optical brighteners?

Optical brighteners, also called brightening agents, fluorescent bleaches, and optical whiteners, are chemicals designed to help fabrics appear to be cleaner, brightening colors and lessening the natural yellowing of fabric over time. Some examples of optical brighteners are coumarins, naphthotriazolylstilbenes, benzoxazolyl, benzimidazolyl, naphthylimide, and diaminostilbene disulfonates. These ingredients are often shown on the labels of laundry detergents, but often are omitted.

### How do optical brighteners work?

You may recall your mother or grandmother using a product called "bluing" in her laundry to make whites appear brighter. Bluing agents remove yellow light to lessen the yellow tinge, but optical brighteners act differently. These agents absorb ultraviolet light and emit it back as visible blue light. This blue light masks any yellowing that may be present in the treated material and makes it seem brighter and whiter than it would otherwise naturally appear to the eye. Your clothes are no cleaner than they would be if you used a detergent without brightening agents, but they appear to be.



Optical brighteners are not effective unless they remain on the fabric after washing. Clothes washed in detergents containing these agents will have a chemical residue left behind on the fabric. This is why line-dried clothing often feels stiff unless fluffed in the dryer. Clothing laundered in detergent without optical whiteners will feel soft right off the line.

### Can optical brighteners affect my family's health?

In terms of human health, exposure to optical brighteners, which remain on laundry by design, can cause eye irritations and skin reactions in sensitive individuals. Many times, skin rashes commonly blamed on fragrance and dyes are actually caused by optical brighteners, so these detergents should not be used by individuals with sensitive skin. Brightening agents bind irreversibly to the skin, and while this has not been shown to negatively affect health, it has also not been proven safe. There is simply not enough information available to determine whether these brighteners are safe to use over long periods of time.

### What are the environmental ramifications of using optical brighteners?

Optical brighteners are less than benign from an environmental perspective. Optical whiteners contain chemicals that can be toxic to fish and other animal and plant life. Many have also been shown to cause mutations in bacteria. In addition, these chemicals are very slow to biodegrade into their less harmful component parts, so pollution remains in waste water for long periods of time. This means that once they are introduced into local waterways via household wastewater, they will remain there as pollutants for some time, negatively affecting water quality and animal and plant life.

### Which detergents contain optical brighteners, and which ones don't?

Many of the most popular laundry detergents contain some form of optical brighteners, and while this fact is often apparent on the label, this is not always the case. Some detergents containing optical brighteners include All liquid, Arm & Hammer liquid, Dreft, Gain, Purex, and Tide.

**A good rule of thumb is that if a detergent claims to be biodegradable, it probably does not contain optical brightening agents.** A few of the popular detergents that do not contain these chemicals are All powder, Allens Naturally, Cheer (all versions), Seventh Generation, and Woolite.

## Seventh Generation Natural Laundry Detergent (Liquid or Powder)



### Features and Benefits

- Non-toxic & biodegradable
- Hypo-allergenic
- Free of phosphates & optical brighteners
- Safe for septic & greywater systems
- Not tested on animals
- Kosher-certified

### Available Sizes

- 2X Concentrate Liquid - 32 oz. 20 loads, 50 oz. 32 loads, or 100 oz. 64 loads
- Powder - 48 oz. 18 loads or 112 oz. 42 loads

### Available Varieties

- Free & Clear
- White Flower & Bergamot Citrus
- Blue Eucalyptus & Lavender (liquid only)

## Where can I buy watershed-friendly detergents?

The following are Seventh Generation retailers. Call to confirm availability. Visit the Seventh Generation website at <http://www.seventhgeneration.com/coupons> for a \$1 off coupon.

### Golden Harvest

47 State Rd  
Kittery, ME 03904  
(207) 439-2113

### Peppercorn Natural

43 S. Main Street  
Plymouth, NH 03264  
(603) 536-3395

### Hannaford

800 Islington St  
Portsmouth, NH 03801-4272  
(603) 436-6669

### Rising Tide Health Foods

6165 State Road  
Kittery, ME 03904  
(207) 439-8898

### Hannaford

5 Hannaford Dr  
York, ME 03909-1667  
(207) 363-5357

### Hannaford

630 Lafayette Rd  
Hampton, NH 03842-3348  
(603) 926-9808

### Portsmouth Health Foods

151 Congress Street  
Portsmouth, NH 03801  
(603) 436-1722

### Philbricks Fresh Market

77 Lafayette Plaza  
Portsmouth, NH 03801  
(603) 964-8394

### Hannaford

833 Central Ave  
Dover, NH 03820-2506  
(603) 749-9232

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### Spruce Creek Watershed Improvement Project

Town of Kittery, Maine  
200 Rogers Road Extension  
Kittery, Maine 03904  
[www.protectkitterywaters.org](http://www.protectkitterywaters.org)