

# Twenty Most Common Chemicals in Thirty-one Fragrance Products

[based on a] 1991 EPA Study

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Compiled by Julia Kendall (1935 - 1997); distributed by [Environmental Health Network](#) (used by permission)

Reference: Lance Wallace, Environmental Protection Agency; Phone: (703) 648-4287

Excerpts from "Health Hazard Information"

Symptoms of exposure are taken from industry-generated Material Safety Data Sheets (MSDS)

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## Principal chemicals found in scented products are:

These 3 are Main Ones in Most products people use everyday, shampoos, toothpastes, cleaning gels, deodorant and beauty products:

**COCOAMIDE DEA** (diethylalumine) TEA, MEA,-- detergent in most shampoos, moisturizers and more

**PROPYLENE GLYCOL** - industrial antifreeze- in deodorant, shampoos, shaving gels, moisturizers and more..

**SODIUM LAURYL SULFATE-AND FLUORIDE** garage floor cleansers, detergents- in shampoos, toothpastes, more...

### 1. ACETONE (in: cologne, dishwashing liquid and detergent, nail enamel remover)

On EPA, RCRA, CERCLA Hazardous Waste lists. "Inhalation can cause dryness of the mouth and throat; dizziness, nausea, incoordination, slurred speech, drowsiness, and, in severe exposures, coma." "Acts primarily as a central nervous system (CNS) depressant."

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### 2. BENZALDEHYDE (in: perfume, cologne, hairspray, laundry bleach, deodorants, detergent, vaseline lotion, shaving cream, shampoo, bar soap, dishwasher detergent)

Narcotic. Sensitizer. "Local anesthetic, CNS depressant"... "irritation to the mouth, throat, eyes, skin, lungs, and GI tract, causing nausea and abdominal pain." "May cause kidney damage." "Do not use with contact lenses."

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**3. BENZYL ACETATE** (in: perfume, cologne, shampoo, fabric softener, stickup air freshener, dishwashing liquid and detergent, soap, hairspray, bleach, after shave, deodorants)

Carcinogenic (linked to pancreatic cancer); "From vapors: irritating to eyes and respiratory passages, exciting cough." "In mice: hyperanemia of the lungs." "Can be absorbed through the skin causing systemic effects." "Do not flush to sewer."

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**4. BENZYL ALCOHOL** (in: perfume, cologne, soap, shampoo, nail enamel remover, air freshener, laundry bleach and detergent, vaseline lotion, deodorants, fabric softener)

"irritating to the upper respiratory tract" ..."headache, nausea, vomiting, dizziness, drop in blood pressure, CNS depression, and death in severe cases due to respiratory failure."

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**5. CAMPHOR** (in: perfume, shaving cream, nail enamel, fabric softener, dishwasher detergent, nail color, stickup air freshener)

"local irritant and CNS stimulant" ..."readily absorbed through body tissues" ..."irritation of eyes, nose and throat" ..."dizziness, confusion, nausea, twitching muscles and convulsions" "Avoid inhalation of vapors."

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**6. ETHANOL** (in: perfume, hairspray, shampoo, fabric softener, dishwashing liquid and detergent, laundry detergent, shaving cream, soap, vaseline lotion, air fresheners, nail color and remover, paint and varnish remover)

On EPA Hazardous Waste list; symptoms: "...fatigue; irritating to eyes and upper respiratory tract even in low concentrations..." "Inhalation of ethanol vapors can have effects similar to those characteristic of ingestion. These include an initial stimulatory effect followed by drowsiness, impaired vision, ataxia, stupor..." Causes CNS disorder.

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**7. ETHYL ACETATE** (in: after shave, cologne, perfume, shampoo, nail color, nail enamel remover, fabric softener, dishwashing liquid)

Narcotic. On EPA Hazardous Waste list; "...irritating to the eyes and respiratory tract" ..."may cause headache and narcosis (stupor)" ..."defatting effect on skin and may cause drying and cracking" ..."may cause anemia with leukocytosis and damage to liver and kidneys" "Wash thoroughly after handling."

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**8. LIMONENE** (in: perfume, cologne, disinfectant spray, bar soap, shaving cream, deodorants, nail color and remover, fabric softener, dishwashing liquid, air fresheners, after shave, bleach, paint and varnish remover)

Carcinogenic. "Prevent its contact with skin or eyes because it is an irritant and sensitizer." "Always wash thoroughly after using this material and before eating, drinking, ...applying cosmetics. Do not inhale limonene vapor."

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**9. LINALOOL** (in: perfume, cologne, bar soap, shampoo, hand lotion, nail enamel remover, hairspray, laundry detergent, dishwashing liquid, vaseline lotion, air fresheners, bleach powder, fabric softener, shaving cream, after shave, solid deodorant)

Narcotic. ..."respiratory disturbances" ... "Attracts bees." "In animal tests: ataxic gait, reduced spontaneous motor activity and depression ... development of respiratory disturbances leading to death." ..."depressed frog-heart activity." Causes CNS disorder.

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**10. METHYLENE CHLORIDE** (in: shampoo, cologne, paint and varnish remover)

Banned by the FDA in 1988! No enforcement possible due to trade secret laws protecting chemical fragrance industry. On EPA, RCRA, CERCLA Hazardous Waste lists. "Carcinogenic" ..."Absorbed, stored in body fat, it metabolizes to carbon monoxide, reducing oxygen-carrying capacity of the blood." "Headache, giddiness, stupor, irritability, fatigue, tingling in the limbs." Causes CNS disorder.

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**11. a-PINENE** (in: bar and liquid soap, cologne, perfume, shaving cream, deodorants, dishwashing liquid, air freshener)

Sensitizer (damaging to the immune system).

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**12. g-TERPINENE** (in: cologne, perfume, soap, shaving cream, deodorant, air freshener)

"Causes asthma and CNS disorders."

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**13. a-TERPINEOL** (in: perfume, cologne, laundry detergent, bleach powder, laundry bleach, fabric softener, stickup air freshener, vaseline lotion, cologne, soap, hairspray, after shave, roll-on deodorant)

... "highly irritating to mucous membranes"... "Aspiration into the lungs can produce pneumonitis or even fatal edema." Can also cause "excitement, ataxia (loss of muscular coordination), hypothermia, CNS and respiratory depression, and headache." "Prevent repeated or prolonged skin contact."

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**NOTE:** Unable to secure MSDS for the following chemicals: **1,8-CINEOLE; b-CITRONELLOL; b-MYRCENE; NEROL; OCIMENE; b-PHENETHYL ALCOHOL; a-TERPINOLENE**

## Relevant Facts:

- 95% of chemicals used in fragrances are synthetic compounds derived from petroleum. They include benzene derivatives, aldehydes and many other known toxics and sensitizers - capable of causing cancer, birth defects, central nervous system disorders and allergic reactions. Neurotoxins: At Home and the Workplace, Report by the Committee on Science & Technology, U.S. House of Representatives, Sept. 16, 1986. (Report 99-827)
- Central Nervous System disorders (brain and spine) include Multiple Sclerosis, Parkinson's Disease, Alzheimer's Disease, Sudden Infant Death Syndrome.
- Chloroform was found in tests of fabric softeners: EPA's 1991 study.
- A room containing an air freshener had high levels of p-dichlorobenzene (a carcinogen) and ethanol: EPA's 1991 study.
- An FDA analysis (1968-1972) of 138 compounds used in cosmetics that most frequently involved adverse reactions, identified five chemicals (alpha-terpineol, benzyl acetate, benzyl alcohol, limonene and linalool) that are among the 20 most commonly used in the 31 fragrance products tested by the EPA in 1991!
- Thirty-three million Americans suffer from sinusitis (inflammation or infection of sinus passages).
- Ten million Americans have asthma. Asthma and asthma deaths have increased over 30% in the past 10 years.
- Headaches cost \$50 billion in lost productivity and medical expenses and 157 million lost work days in 1991. "Focus on Fragrance and Health," by Louise Kosta, The Human Ecologist, Fall 1992.