

**TOXIC CHEMICALS IN
AIR FRESHENERS
AND HEALTH EFFECTS**

Principal Investigator: Anne C. Steinemann, Professor, Civil and Environmental Engineering, and Public Affairs, University of Washington. Chemicals identified by gas chromatography/mass spectrometry (GC/MS) headspace analysis. Health and regulatory information obtained from databases compiled in Scorecard. Note that fragranced consumer products are not required to disclose all chemicals, not even ones classified as toxic or hazardous under federal laws. None of these chemicals were listed on any product label or material safety data sheet.

ACETALDEHYDE (75-07-0)

Recognized Carcinogen

Suspected Developmental Toxicant, Immunotoxicant, Kidney Toxicant, Neurotoxicant, Respiratory Toxicant, Skin or Sense Organ Toxicant

Regulated as toxic/hazardous chemical under the following law(s):

Air Contaminants (OSH Act); Hazardous Air Pollutants (CAA); Hazardous Substances (CERCLA); Regulated Toxic, Explosive, or Flammable Substances (CAA); Toxic Release Inventory Chemicals (EPCRA)

ACETONE (67-64-1)

Suspected Cardiovascular or Blood Toxicant, Gastrointestinal or Liver Toxicant, Kidney Toxicant, Neurotoxicant, Respiratory Toxicant, Skin or Sense Organ Toxicant

Regulated as toxic/hazardous chemical under the following law(s):

Air Contaminants (OSH Act), Hazardous Substances (CERCLA), Registered Pesticides (FIFRA)

ETHANOL (64-17-5)

Suspected Carcinogen, Cardiovascular or Blood Toxicant, Developmental Toxicant, Endocrine Toxicant, Gastrointestinal or Liver Toxicant, Neurotoxicant, Reproductive Toxicant, Respiratory Toxicant, Skin or Sense Organ Toxicant

Regulated as toxic/hazardous chemical under the following law(s):

Air Contaminants (OSH Act), Registered Pesticides (FIFRA)

BENZALDEHYDE (100-52-7)

Suspected Gastrointestinal or Liver Toxicant, Kidney Toxicant, Neurotoxicant, Respiratory Toxicant, Skin or Sense Organ Toxicant

Regulated as toxic/hazardous chemical under the following law(s):

Registered Pesticides (FIFRA)

ISOPROPYL ALCOHOL (67-63-0)

Suspected Cardiovascular or Blood Toxicant, Developmental Toxicant, Gastrointestinal or Liver Toxicant, Kidney Toxicant, Neurotoxicant, Respiratory Toxicant, Skin or Sense Organ Toxicant

Regulated as toxic/hazardous chemical under the following law(s):

Air Contaminants (OSH Act), Registered Pesticides (FIFRA), Toxic Release Inventory Chemicals (EPCRA)

α -PINENE (80-56-8)

Suspected Neurotoxicant, Respiratory Toxicant, Skin or Sense Organ Toxicant

Regulated as toxic/hazardous chemical under the following law(s):

Registered Pesticides (FIFRA)

BENZYL ACETATE (140-11-4)

Suspected Gastrointestinal or Liver Toxicant, Kidney Toxicant, Neurotoxicant, Respiratory Toxicant

ETHYL ACETATE (141-78-6)

Suspected Neurotoxicant, Respiratory Toxicant, Skin or Sense Organ Toxicant

Regulated as toxic/hazardous chemical under the following law(s):

Air Contaminants (OSH Act), Hazardous Substances (CERCLA), Registered Pesticides (FIFRA)

ISOAMYL ACETATE (1-BUTANOL, 3-METHYL-, ACETATE) (123-92-2)

Suspected Neurotoxicant

Regulated as toxic/hazardous chemical under the following law(s):

Air Contaminants (OSH Act), Hazardous Substances (CERCLA)

O, M, OR P-CYMENE (527-84-4, 535-77-3, and 99-87-6)

Suspected Cardiovascular or Blood Toxicant, Neurotoxicant, Respiratory Toxicant

LIMONENE (138-86-3)

Regulated as toxic/hazardous chemical under the following law(s):

Registered Pesticides (FIFRA)

LINALOOL (78-70-6)

Regulated as toxic/hazardous chemical under the following law(s):

Registered Pesticides (FIFRA)