



United States Department of Agriculture

Research, Education and Economics
Agricultural Research Service

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Ms. Dorothy Shimer
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Ms. Shimer;

Thank you for the invitation to provide information to the Public Review Draft Report to the California Legislature on Indoor Air Pollution in California. The Food and Drug Association and Federal Emergency Management Association both list d-limonene as a GRAS or "generally recognized as safe" product. It is not listed on California's Prop. 65 toxic substance list, or on the Environmental Protection Agency's Chemical and Regulatory Rules list where chemicals the EPA considers to pose a health or environmental risk are placed. It is also not considered a hazardous waste material by EPA. The National Toxicology Program, Occupational Safety and Health Administration, and the International Agency for Research in Cancer do not have d-limonene listed as chemical they consider to be carcinogenic to humans.

The report (section 2.1.3) states a major objection to the use of d-limonene and other terpenes in cleaning products is not due to the chemical itself, but due to reaction products formed between terpenes reacting with ozone and nitrogen oxides present in smog. These are components which cause irritation without any d-limonene or other terpenes being present. Before d-limonene and other terpenes are banned from use in California, a serious and realistic evaluation needs to be conducted to determine if better and more effective alternatives for cleaning chemicals that are safer to use actually exist. It would seem more prudent to eliminate the ozone, nitrogen oxides and other components in smog which are the real problem. The citrus processing industry is a major producer of d-limonene, a by-product of citrus processing. Elimination of d-limonene as a chemical in cleaning formulations could have a serious impact on the citrus processing industry due to decreased demand, an industry that increasingly relies on by-product sales to maintain a profit.

Sincerely;

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CC: Elizabeth Baldwin



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