

# **TCDD and cancer: A critical review of the epidemiological evidence**

Comments to EPA's SAB

October 27, 2010

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# Background

- 1997 IARC full-scale review of dioxin
  - Concluded “Limited” evidence for humans
  - Based on overall increase in risk of “all cancers”
- 2009 IARC conducted brief re-review
  - Concluded “Sufficient” evidence for humans
  - Based on evidence for “all cancers” combined

**What evidence supports upgrading to “Sufficient”?**

# Findings

- Updates supportive of a positive association
  - US herbicide manufacturers: dose-response or lagged analyses
  - Seveso population: updated **mortality** follow-up
- Updates failing to support a positive association
  - US herbicide manufacturers: SMR analysis
  - Seveso population: cancer **incidence**
  - Dutch herbicide manufacturers: mortality update
  - Vietnam Veterans Studies

As a whole the new evidence from human studies does not justify an upgrade from “limited” to “sufficient”

# Conclusion

While the hypothesis that TCDD is a human carcinogen is plausible based on experimental evidence, in our opinion the weak and contradictory evidence from epidemiological studies fails to conclusively demonstrate a causal association.