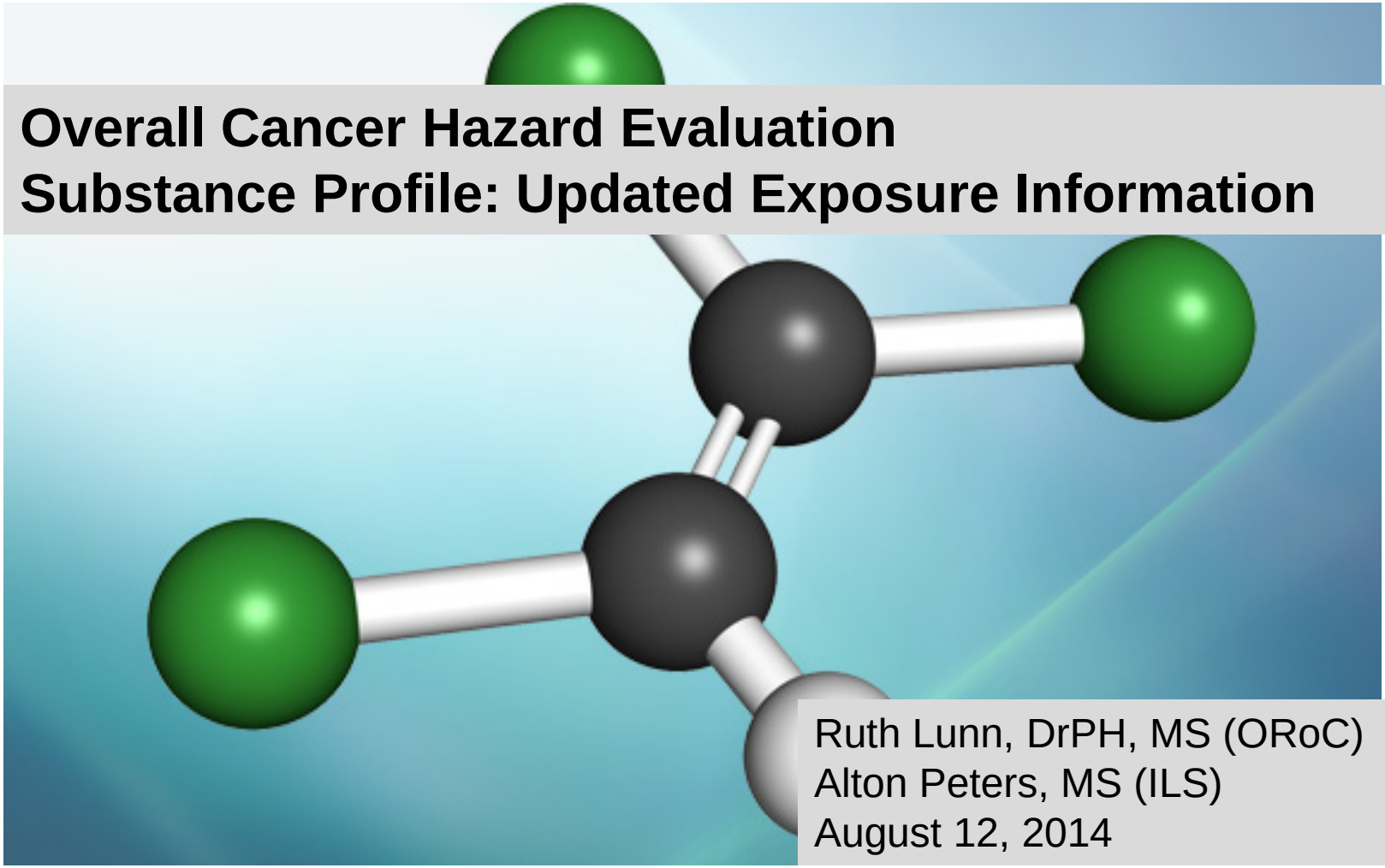
Overall Cancer Hazard Evaluation
Substance Profile: Updated Exposure Information



Ruth Lunn, DrPH, MS (ORoC)
Alton Peters, MS (ILS)
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Preliminary Listing Recommendation

Trichloroethylene is *known to be a human carcinogen* based on sufficient evidence of carcinogenicity from studies in humans.

- Human epidemiological studies together with toxicokinetic, toxicological, and mechanistic studies show that trichloroethylene causes kidney cancer in humans.

Limited evidence for the carcinogenicity of trichloroethylene from studies of non-Hodgkin lymphoma (NHL) in humans.

Supporting evidence is provided by studies in experimental animals.

Preliminary Listing Recommendation: Vote

- Vote on whether the scientific evidence supports the NTP's preliminary policy decision of listing TCE in the RoC as *known to be a human carcinogen*.

Environmental exposure

- Primarily by inhalation of ambient air and ingestion of contaminated drinking-water
- Documented by measurements in drinking-water, groundwater, surface water, ambient air, soil, and food
- Environmental release data for TCE are reported in the USEPA Toxics Release Inventory (TRI) database
  - Environmental releases of TCE from 211 U.S. facilities in 2011 totaled 2.3 million pounds and have declined over 95% since 1988, when over 57 million pounds were released

Environmental exposure

- National Health and Nutrition Examination Survey (NHANES)
  - Detectable levels of TCE in blood in 10% to 12% of United States population in surveys between 1988 and 2000 (sample sizes ranging from approximately 300 to 700)
  - Blood TCE levels reported as below limit of detection in surveys between 2001 and 2006 (sample sizes ranging from approximately 900 to 3,200)
- Blood TCE levels are decreasing in the general population, but in certain populations (e.g., near Superfund sites), there have been recent cases of TCE exposure
  - Asheville, NC (2014)
  - Mountain View, CA (2013)

Substance Profile: Reviewer's questions/discussion

- Comment on whether the information included in the substance profile on use, production, and human exposure for TCE is clear and technically accurate.
- Comment on whether the information presented regarding cancer studies in humans is clear, technically correct, and objectively stated.
  - Comment on whether the substance profile highlights the information from the cancer studies in humans that are considered key to reaching the listing recommendation.
- Comment on whether the information presented regarding studies on mechanisms of carcinogenicity and other relevant data is clear, technically correct, and objectively stated.
  - Comment on whether the substance profile highlights the studies on mechanisms of carcinogenicity and other relevant data that are key to providing support for the carcinogenicity of TCE in humans.