

## WHAT ARE THE HUMAN HEALTH RISKS OF EXPOSURE TO TAR SANDS OIL, DILUENTS, AND DILBIT?

Common symptoms of exposure to conventional crude oil spills are well known and established within the medical community and include respiratory problems, central nervous system dysfunction, blood disorders, and skin problems.<sup>1</sup> Unfortunately, a body only has so many ways to say it's ill and the symptoms for chemical illnesses mimic those for colds/flu, asthma, bronchitis, COPD, bad headaches, vertigo, dizziness, tingling feet and hands, fatigue, general malaise, immune suppression (sick all the time), bad looking skin rashes like MRSA, peeling palms and soles of feet (for people walking barefoot), ear and nose bleeds (gushers), bleeding hemorrhoids, and more.<sup>2</sup>

Tar sands oil is concentrated with heavy hydrocarbons, known as Polycyclic Aromatic Hydrocarbons (PAHs) or more commonly as ultrafine particles. Exposure to PAHs can cause the health issues listed above (and also listed as compensable injury on BP medical benefits settlement<sup>3</sup>)—and similar injury in wildlife.<sup>4</sup>

The diluents are industrial solvents, containing petroleum distillates and other toxic chemicals that target and harm the same organs of the body as PAHs/oil—the respiratory system, central nervous system, skin, and blood. This means the body takes a double hit of toxic chemicals. Diluents contain chemicals that are teratogens (disturb development of or kill babies in the womb), carcinogens, mutagens, systemic poisons, and cause hemolysis (rupture of blood cells). Some people are more vulnerable than others to dilbit, especially children<sup>5</sup>, pregnant women, elderly, African Americans, and those with pre-existing illnesses.<sup>6</sup> Diluents are industrial solvents and degreasers, like dispersants, that act as an oil delivery mechanism, pulling oil into the body. The emerging science from the BP Gulf disaster is finding that chemically-dispersed oil is more toxic than oil alone to wildlife and humans. Since tar sands oil is concentrated with PAHs and VOCs/diluents, dilbit is far more toxic to humans and animals (wild and domestic) than conventional oil.

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<sup>1</sup> Barry Levy and William Nassetta, The Adverse Health Effects of Oil Spills, *Intern. J. of Occupational Health and Environ. Medicine*, 17(2):161– Apr/Jun, 2011. <http://www.ncbi.nlm.nih.gov/pubmed/21618948>

<sup>2</sup> See: series of *Huffington Post* blogs documenting emerging public health epidemic of chemical illnesses across the oil-impacted Gulf Coast at: <http://www.huffingtonpost.com/riki-ott/>; See also: on-line version of *Sound Truth and Corporate Myths* at: [www.rikiott.com](http://www.rikiott.com) under reading for medical professionals.

<sup>3</sup> BP-Plaintiffs Medical Benefits Class Action Settlement Agreement, Exhibit 8: Specified Physical Conditions Matrix, Table 1: Acute SPECIFIED PHYSICAL CONDITIONS, and Table 3: Chronic SPECIFIED PHYSICAL CONDITIONS. <http://www.laed.uscourts.gov/OilSpill/4.pdf>

<sup>4</sup> Charles Peterson, Stanley Rice, Jeffrey Short, Daniel Esler, James Bodkin, Brenda Ballachey, and David Irons, “Long-term Ecosystem Responses to the *Exxon Valdez* Oil Spill,” 2003; 302:2082–2086. See also Riki Ott, *Sound Truth and Corporate Myths: The Legacy of the Exxon Valdez Oil Spill* (Dragonfly Sisters Press, Cordova, AK: 2004), available at: [www.rikiott.com](http://www.rikiott.com)

<sup>5</sup> <http://globalaccessmedia.org/consequence-oil-part/>

<sup>6</sup> Sciencecorps, 2010, Gulf Oil Spill Health Hazards.

[http://www.sciencecorps.org/Gulf\\_Spill\\_Chemical\\_Hazards\\_Report.pdf](http://www.sciencecorps.org/Gulf_Spill_Chemical_Hazards_Report.pdf)