

# Is Jet Fuel Another Agent Orange? Part One: Exposure

June 10, 2014 by Chris Amidon, Veterans Advocate

JP-4 Jet fuel was everywhere in Vietnam. Air Force veterans joke that you know you were in the Air Force when you know what jet fuel tastes like. Huey crews often wiped down their choppers and equipment with JP-4, soldiers would use it to burn trash and feces, and many were chronically exposed to fumes and fuel on their skin. Jets and Huey's burned it constantly, and there were many instances of large quantities of JP-4 catching fire. In Bien Hoa, in May 1965, [250,000 gallon bladders](#) of JP-4 jet fuel went up in smoke, killing and wounding many troops, and filling lungs with burning fuel.

In "Vietnam: Lessons Learned #74," a report on defoliation techniques declassified in 1985, it is mentioned twice:

*"Where defoliation by hand spray must be done near crops or other desirable vegetation, contaminated Jp-4 or diesel fuel should be used without the addition of the herbicide."*

*"[Agent] ORANGE should be mixed with 10 to 20 parts of Jp-4 or diesel fuel (contaminated fuel is acceptable)"*

While only tangentially related to jet fuel, in the document is the single greatest paragraph to demonstrate the oxymoronic nature of the phrase "Military Intelligence:"

*"All these herbicides [including AO] present low risks to humans and animals. They have been widely used in the US for more than 20 years on food and other crops, rangeland, and forests. No special precautions are needed by air or ground crews and friendly troops are often sprayed without ill effects. None of the herbicides is persistent in soil, and areas must be resprayed periodically to kill regrowth, if the tactical situation requires it."*

"Operation Flyswatter" was a mosquito eradication program in which 1.76 million gallons of malathion pesticide was dusted over the heads of troops, typically right around dusk, when the mosquitos were active, and the men were eating chow below. Many veterans who worked with the project claim that JP-4 or diesel fuel was also often mixed with the pesticides. This makes sense, as pesticides had been routinely mixed with kerosene for a half-century before Vietnam.

Every veteran who set foot in Vietnam is presumed to have Agent Orange exposure, but shouldn't they be presumed to have JP-4 exposure as well?

JP-4 is similar to kerosene, and is what's known as a "wide-cut" fuel. This means that there are a broader range of constituent components than in commercial fuel or gasoline, and it is cheaper to produce. [According](#) to the Agency for Toxic Substances and Disease Registry, there are typically around 100 hydrocarbon-based components alone.

Benzene, toluene, ethylbenzene and xylenes, known collectively as [BTEX](#), are extremely toxic to humans, and have become a major environmental problem, especially around Air Force Bases.

Hill Air Force Base in Utah was designated as an EPA superfund site, after it was discovered to have JP-4 contamination so extensively that BTEX concentration of 5,000 mg/kg up to 95 feet below the surface. For reference, OSHA considers doses above .004 mg/kg to be harmful to humans. Hill AFB is not alone. Luke, Mather, George, Travis, Williams, McClellan, Tyndall, Griffis, Ellsworth, Anderson, and [many more](#) Air Force Bases are on the EPA's Superfund list, either for BTEX, PCBs, Trichloroethylene, or other contamination. Are we to believe that dangerous levels of these chemicals exist 100 feet below the surface (as well as in the groundwater at many locations), but that Airmen on the surface are not exposed? Even a cook or an information management specialist is being exposed, simply by existing on base.

It would appear that JP-4 was so ubiquitous in Vietnam-era military operations that nearly every veteran had some exposure. It would even appear that modern-day soldiers, sailors and airmen are still being exposed from JP-4 environmental contamination on military bases, years after the military moved on from JP-4 in 1995 to JP-5, JP-7, and JP-8.

Future parts will deal with the many severe health effects from chronic JP-4 exposure. If you thought Agent Orange/TCDD alone was bad, prepare yourself.