Uploaded to the VFC Website

August 2013

This Document has been provided to you courtesy of Veterans-For-Change!

Feel free to pass to any veteran who might be able to use this information!

For thousands more files like this and hundreds of links to useful information, and hundreds of "Frequently Asked Questions, please go to:

Veterans-For-Change

Veterans-For-Change is a A 501(c)(3) Non-Profit Organizaton
Tax ID #27-3820181
CA Incorporation ID #3340400
CA Dept. of Charities ID #: CT-0190794

If Veterans don't help Veterans, who will?

We appreciate all donations to continue to provide information and services to Veterans and their families.

https://www.paypal.com/cgi-bin/webscr?cmd=_s-xclick&hosted_button_id=WGT2M5UTB9A78

Note: VFC is not liable for source information in this document, it is merely provided as a courtesy to our members & subscribers.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Agency for Toxic Substances
and Disease Registry
Atlanta, GA 30341

January 25, 2012

Wesley T. Carter, Major, USAF, Retired
2349 Nut Tree Lane
McMinnville, Oregon 97128

Dear Major Carter:

Thank you for your letter of November 17, 2011 regarding past Agent Orange exposures to Air Force C-123 aircrews operating this equipment outside of the Vietnam War theatre from 1972-1982. You describe a recent conversation with a representative of the United States Veterans Administration (VA). You were told … *aircrews inside a 'heavily contaminated' airplane could not be exposed via dermal contact because the skin is a good barrier. Neither could exposure occur via inhalation because there wasn't much dust for the dioxin to adhere to".* You ask that the Agency for Toxic Substances and Disease Registry (ATSDR) provide you our opinion if you have been exposed.

In this letter, I provide a summary of my discussions with the United States Air Force (USAF), our review of screening criteria used by the Department of Defense for exposure to 2,3,7,8 tetrachlorodibenzo-p-dioxin (TCDD), and a comparison of the screening criteria to the measured results from wipe samples taken from a contaminated plane on November 20, 1994. I summarize the limitations of the data and provide an opinion about exposure to TCDD in contaminated C-123 aircraft.

I contacted our liaisons for the Department of the Army and the USAF. I was referred to the following information currently posted on the VA website. It states … (the) *VA has concluded the potential for long-term adverse health effects from Agent Orange residues in these planes is minimal. Even if crew exposure did occur, it is unlikely that sufficient amounts of dried Agent Orange residue could have entered the body to have caused harm*[1]. I was also put in contact with Captain Kendra Fletcher at Air Force Medical Support Agency Bioenvironmental Engineering. I offered this agency's expertise to the USAF in reviewing the available data, determining the likelihood of exposure, and (if possible) the health risks from the exposures that had occurred. Captain Fletcher stated that she would share this offer within the USAF and contact me should the USAF desire our assistance.

Following that initial conversation, ATSDR staff located a technical guidance from the United States Army Center for Health Promotion and Preventive Medicine – *Technical Guide 312 - Health Risk Assessment Methods and Screening Levels for Evaluating Office Worker Exposures to Contaminants on Indoor Surfaces Using Surface Wipe Data (June 2009).*[2] In this document, the Army derives screening levels for long-term office workers using surface

[1] http://www.publichealth.va.gov/exposures/agentorange/residue-c123-aircraft.asp
[2] http://phc.amedd.army.mil/topics/envirohealth/hrasm/Pages/EHRAP_TechGuide.aspx

wipe samples analyzed for TCDD concentrations. Technical Guide 312 includes a screening value for TCDD of 3.5E-05 µg/100cm^2, or 0.035 ng/100cm^2. This screening level incorporates incidental ingestion, dermal, and inhalation (both particulate and vapor) pathways. The screening level is set at a threshold of 1E-06 cancer risk, (equivalent to a one-in-a-million increase in the risk of cancer). ATSDR calculated an average value 6.36 ng/100cm^2 for the three C-123 interior wipe samples collected on November 20, 1994. [3] This average value exceeds the Army screening level by 182 times and is equivalent to a 200-fold greater cancer risk than the screening value. I shared this information with Captain Fletcher.

There are many limitations to the information available to us. We know of only 3 wipe samples taken from a single aircraft in 1994. We do not know if these samples are representative of TCDD contamination in other contaminated C-123 aircraft in 1994 or earlier when contamination levels were likely higher. Additional air or wipe sampling or analyses of aircrew blood TCDD levels would have more accurately established past exposures. It is probably too late to analyze current blood TCDD levels because twenty to forty years have passed since these exposures occurred. I understand that the contaminated aircraft have been destroyed and further environmental sampling (air or wipe) is impossible. Finally, the office worker scenario used in Technical Guidance 312 likely underestimates the daily exposures of Air Force flight personnel inside confined contaminated aircraft, but this depends upon exposed skin surface area, duration of exposure, hand washing, and food intake.

In summary, I cannot exclude inhalation exposures to TCDD in these aircraft. The only available environmental samples indicate that the sampled aircraft was contaminated with TCDD at a level greatly exceeding current screening levels established by the Department of Defense. Given the available information, I believe that aircrew operating in this, and similar, environments were exposed to TCDD. The information available is insufficient to establish with accuracy the degree of exposure (low or high) or the risk of adverse health effects to this population. However, it is important to note that even precise environmental or biologic testing data are not predictive of adverse health effects in any individual.

I have provided a copy of this letter to Captain Fletcher. I hope this information is helpful.

Sincerely yours,

Thomas Sinks

Thomas Sinks, Ph.D.
Deputy Director, National Center for
Environmental Health and
Agency for Toxic Substances and
Disease Registry

cc:
CAPT Fletcher, R. Shackelford, D. Carillo

---

3 See Consultative Letter from Capt Wade Weisman & Ronald Porter; Department of Air Force Armstrong Laboratory Memorandum FOR 645 MedGrp/SGB Dated 19 Dec 94