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The Dow Chemical Company
Midland, MI 48674
U.S.A.

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January 27, 2010



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Document Processing Center (7407M)
(Attn: TSCA Section 8(e) Coordinator)
Office of Pollution Prevention and Toxics
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460-0001



Re: 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), CASRN 1746-01-6
2,3,7,8-tetrachlorodibenzofuran (TCDF), CASRN 51207-31-9
2,3,4,7,8-pentachlorodibenzofuran (PeCDF), CASRN 57117-31-4

Dear Sir/Madam:

The following information is being submitted by The Dow Chemical Company (Dow) pursuant to current guidance issued by EPA indicating EPA's interpretation of Section 8(e) of the Toxic Substances Control Act. Dow has made no determination as to whether a significant risk of injury to health or the environment is actually presented by the findings.

Information from three new pending scientific manuscripts is being submitted:

Herve et al., submitted for publication in Toxicological Sciences: Cytochrome P4501A induction by 2,3,7,8-tetrachlorodibenzo-p-dioxin and two chlorinated dibenzofurans in primary hepatocytes cultures of three avian species.

Herve et al., submitted for publication in Toxicology in Vitro: Ethoxyresorufin-O-deethylase induction by TCDD, PeCDF and TCDF in ring-necked pheasant and Japanese quail hepatocytes: time-dependent effects on concentration-response curves.

Herve et al., submitted for publication in Environmental Science & Technology: Relative potencies of dioxin-like chemicals in primary cultures of herring gull hepatocytes: 2,3,4,7,8-PeCDF is more potent CYP1A inducer than 2,3,7,8-TCDD.

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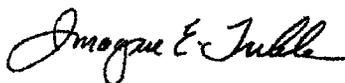
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Primary embryonic hepatocytes were isolated from chicken, ring-neck pheasant and Japanese Quail eggs and exposed for 24 hours to concentrations of TCDD, 4-PeCDF and TCDF ranging from 0.0003 to 10 nM. EROD activity and CYP1A4/1A5 mRNA fold induction were measured in the primary hepatocytes cultures. It was found that 4-PeCDF was up to 5-fold to 30-fold more potent than TCDD in inducing CYP1A in the pheasant and quail, respectively whereas 4-PeCDF, TCDD and TCDF were equipotent in the chicken. For TCDD and TCDF, the chicken was more sensitive than pheasant which were more sensitive than quail for CYP1A induction. All three bird species were of comparable sensitivity to 4-PeCDF. In Herring gull, 4-PeCDF was approximately 10 to 40-fold more potent than TCDD in inducing CYP1A.

Questions may be addressed to the undersigned.

Sincerely,



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bls