National Tribal Toxics Council

400 D Street, Suite 200
Anchorage, AK 99501

907-277-2111 Office
1-877-335-6780 Fax
www.tribaltoxics.org
@tribaltoxics

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Seema Schapelle
Existing Chemicals Risk Assessment Division
Office of Pollution Prevention and Toxics
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460-0001

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Re: 1,2-Dichloroethane; Draft Risk Evaluation Under the Toxic Substances Control Act (TSCA); Notice of Availability and Request for Comment

The National Tribal Toxics Council (NTTC) is an EPA Tribal Partnership Group with the Office of Pollution Prevention and Toxics (OPPT). Since the 2016 TSCA amendments, one of the Council's primary goals has been to suggest improvements to the TSCA risk evaluation process such that risks to tribes are accurately characterized and tribal peoples can be assured that, as Congress intended, their lifeways, environment, and health are protected in all chemical risk management decisions. The NTTC appreciates the opportunity to provide comments on the Draft TSCA Risk Evaluation of 1,2-Dichloroethane (1,2-DCA).

The NTTC is concerned that this draft risk evaluation does not adequately evaluate risks from 1,2-DCA exposure to tribal people. The only exposure pathway EPA considers is tribal fish consumption, using a rate that is both too low and not representative (216 g/day) of tribal diets, when documented rates of higher fish consumption are available. EPA also uses this rate to calculate high end exposure, which is inaccurate resulting in an underestimation of chronic exposure from this pathway. Furthermore, EPA does not evaluate risks to tribal children in this risk evaluation, despite determining that exposure to toddlers and children in the general population from eating fish is high, which is not acceptable given the much higher fish consumption rate tribal children have. Risks to tribal elders were also not evaluated, as the age group for tribal populations considered in this risk evaluation is over 16 to less than 70 years old. Tribal exposure pathways other than fish consumption were not considered, and no aggregate exposure analysis was performed.

Several of the risk evaluations that were released before this draft risk evaluation included the following language. This excerpt is from the Risk Evaluation of BBP, but many other risk evaluations include the same language—for example, the final risk evaluations of TCE, DEHP, DIBP, DBP, and others:

> "Tribal populations represent another PESS group. In the United States, there are a total of 574 federally recognized American Indian Tribes and Alaska Native Villages, and 63 state recognized tribes. Tribal cultures are inextricably linked to their lands, which provide all their needs from hunting, fishing, food gathering, and grazing horses to commerce, art, education, health care, and social systems. These services flow among natural resources in continuous interlocking cycles, creating a multi-dimensional relationship with the natural environment and forming the basis of Tamanwit (natural law) (Harper et al., 2012). Such an intricate connection to the land and the distinctive lifeways and cultures between individual tribes creates many unique exposure scenarios that can expose tribal members to higher doses of contaminants in the environment…
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> U.S. EPA (2011a) (Chapter 10, Table 10-6) summarizes relevant studies on current tribal-specific fish ingestion rates that covered 11 tribes and 94 Alaskan communities. The highest central tendency value (a mean) ingestion rate per kilogram of body weight is reported in a 1997 survey of adult members (16+ years) of the Suquamish Tribe in Washington. Adults from the Suquamish Tribe reported a mean ingestion rate of 2.7 g/kg-day, or 216 g/day assuming an adult body weight of 80 kg. In comparison, the ingestion rates for adult subsistence fishers and the general population are 142.2 and 22.2 g/day, respectively. A total of 92 adults responded to the survey funded by the Agency for Toxic Substances and Disease Registry (ATSDR) through a grant to the Washington State Department of Health, of which 44 percent reported consuming less fish/seafood today compared to 20 years ago. One reason for the decline is restricted harvesting caused by increased pollution and habitat degradation (Duncan, 2000).
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> In addition to the current mean fish ingestion rate, EPA reviewed literature and surveys to identify a high-end (i.e., 90th or 95th percentile) current fish ingestion rate. The surveys asked participants to Page 57 of 120 estimate their daily fish consumption over the course of a year by meal size and meal frequency. The highest 95th percentile fish and shellfish ingestion rate was 874 g/day, or 10.9 g/kg-day assuming a body weight of 80 kg, for male adults (18+ years) of the Shoshone−Bannock Tribes in Idaho (Polissar et al., 2016). The 95th percentile ingestion rate for males and females combined was not much lower at 10.1 g/kg-day. The Suquamish Tribe also reported similar high-end (90th percentile) current ingestion rates for adults ranging from 8.56 to 9.73 g/kg-day (Duncan, 2000). Estimated high-end fish ingestion rates were lower for other tribes in Alaska, the Pacific Northwest, Great Lakes region, and northeastern North America. To evaluate a current high-end exposure scenario, EPA used the highest 95th percentile ingestion rate of 10.9 g/kg-day. Current ingestion rates are considered more representative of contemporary rates of fish consumption. However, because current fish consumption rates are suppressed by contamination, degradation, or loss of access, EPA also reviewed existing literature for heritage rates. Heritage ingestion rates refer to typical fish ingestion prior to non-indigenous settlement on tribal fisheries resources, as well as changes in culture and lifeways (U.S. EPA, 2016). They are less relevant than current ingestion rates. Heritage ingestion rates were identified for four tribes, all located in the Pacific Northwest. The highest heritage ingestion rate was reported for the Kootenai Tribe in Idaho at 1,646 g/day, or 20.6 g/kg-day assuming an adult body weight of 80 kg (RIDOLFI, 2016; Northcote, 1973). Northcote (1973) conducted a comprehensive review and evaluation of ethnographic literature, historical accounts, harvest records, archaeological and ecological information,

> as well as other studies of heritage consumption. The heritage ingestion rate is estimated for Kootenai members living in the vicinity of Kootenay Lake in British Columbia, Canada; the Kootenai Tribe once occupied territories in parts of Montana, Idaho, and British Columbia. It is based on a 2,500 calorie per day diet, assuming 75 percent of the total caloric intake comes from fish which may overestimate fish intake. However, the higher ingestion rate also accounted for salmon fat loss during migration to spawning locations by using a lower caloric value for whole raw fish. Northcote (1973) assumed a caloric content of 113.0 cal/100 g wet weight. In comparison, the U.S. Department of Agriculture's Agricultural Research Service (1963) estimates a caloric content for fish sold in the United States to range from 142 to 242 cal/100 g of fish. EPA calculated exposure via fish consumption for tribes using Equation 7-1 and the same inputs as the general population, with the exception of the ingestion rate. Three ingestion rates were used: 216 g/day (2.7 g/kg-day) for a central tendency current consumption rate; 874 g/day (10.9 g/kg-day) as a high-end current tribal fish ingestion rate; and 1,646 g/day (20.58 g/kg-day) for heritage consumption. For the heritage rates, the corresponding screening level exposure and risk estimates are presented alongside other ingestion rates but not considered further in this assessment because no available information can substantiate if heritage rates reflect current consumption patterns. Similar to subsistence fishers, EPA used the same ingestion rate to estimate both the ADD and ADR. For current ingestion rates, U.S. EPA (2011a) provides values specific to younger lifestages, but adults still consume higher amounts of fish per kilogram of body weight. An exception is for the Squaxin Island Tribe in Washington that reported an ingestion rate of 2.9 g/kg-day for children under 5 years old. That ingestion rate for children is nearly the same as the adult ingestion rate of 2.7 g/kg-day for the Suquamish Tribe. As a result, exposure estimates based on current IR focused on adults."[1]

The NTTC urges EPA to include this language in the 1,2-DCA draft risk evaluation and to use the appropriate fish consumption rates for tribal fish ingestion and associated exposures and risks. Using a fish ingestion rate of 216 g/day for tribal fish consumption, without a high-end rate and heritage rate, is inappropriate and does not capture the exposures tribal people experience via this pathway. Importantly, fish consumption of tribal children and tribal elders was not considered and therefore risks to these vulnerable subpopulations were not evaluated. Tribal exposures other than higher fish consumption also need to be included in TSCA risk evaluations, as tribal people have higher exposure to chemicals that release to the environment via a variety of unique pathways that the general population does not experience.

As NTTC has informed EPA in previous comment letters and presentations to the Agency[2], tribes have unique lifeways that place them at different risk due to multiple exposure pathways not experienced by the general population. Therefore, a general population exposure and risk analysis cannot be applied to evaluating tribal risks because tribal lifeways are not included in general population exposure scenarios. Tribal lifeways include differences in:

1. Diet, such as significantly higher consumption of locally harvested fish and local aquatic species, as well as higher consumption of locally harvested deer, elk, moose, caribou, and other wildlife that may be contaminated by industrial and other releases to tribal lands.

[1] Environmental Protection Agency (2025). *Risk Evaluation for Butyl Benzyl Phthalate (1,2-Benzene-dicarboxylic acid, 1-butyl 2(phenylmethyl) ester) (BBP)* (EPA-HQ-OPPT-2018-0501). https://www.federalregister.gov/documents/2025/08/06/2025-14882/butyl-benzyl-phthalate-bbp-diisobutyl-phthalate-dibp-draft-risk-evaluations-under-the-toxic{/nav}.

[2] See www.tribaltoxics.org

2. Housing, which tends to be substandard and contain older household furniture and products that may bear legacy contaminants; to lack garages (necessitating product storage inside the home), and can be associated with dirt yards and unpaved roads, increasing indidental dust ingestion.
3. Worker safety protocols, which tend to be less stringently practiced due to multiple small businesses, self-employment, do-it-yourself practices, and remote access locations unvisited by OSHA.
4. Local water, which can be untreated and unregulated, and come from wells, surface water, and spring water systems. Water is typically used for:
    - Drinking, without filtering or treatment
    - Bathing via daily steam baths and/or immersion in surface water flows
    - Ceremonial use through steam baths and full body immersion in surface water flows
    - Multiple cultural activities (e.g. reed harvesting, mouthing, weaving);
    - Subsistence activities (e.g. hunting, gathering)
    - Recreational activities (swimming in natural water)
    - Other lifeways.

EPA considered risk to the general population from inhalation. EPA evaluated acute, chronic, and lifetime exposures to 1,2-DCA in ambient air using rates from EPA's Exposure Factors Handbook. EPA's *"Draft Considerations and Resources for Assessing Tribal Exposures in TSCA Risk Evaluations"*, however, lists tribal inhalation rates much higher than those of the general population (25–30 m^3/day vs 16–16.3 m^3/day). The NTTC requests that in the final risk evaluation of 1,2-DCA, EPA perform an exposure analysis using tribal inhalation rates. The appropriate tribal inhalation rates need to also be utilized in the AERMOD and HEM models when assessing risks to the Navajo Nation fenceline community near the Chinle AZ facility, as well.

EPA also evaluated exposures to 1,2-DCA from ingestion of drinking water, incidental ingestion and dermal absorption while swimming, and fish ingestion. Tribal exposure factors from drinking water are different from those of the general population as well (up to 4 L/day vs 1.34 L/day)[3] and the appropriate values need to be used in the exposure and risk estimates in the final risk evaluation of 1,2-DCA. Tribal lifeways also result in higher incidental ingestion and dermal absorption of water while swimming/wading and, again, we urge EPA to use the appropriate values when calculating exposures and risks to PESS like Tribes from 1,2-DCA[3] (see Tables 5-4 and 5-5 in *Draft Considerations and Resources for Assessing Tribal Exposures in TSCA Risk Evaluations (2024)).* Table 5-6 in that document contains fish ingestion exposure factors for tribal populations that are much higher than the 216 g/day that EPA used in this risk evaluation.

EPA also evaluated groundwater releases of 1,2-DCA from landfill disposal. Once again, a tribal exposure scenario of unlined landfills adjacent to water bodies and tribal water use were not evaluated. Many tribal communities live near a landfill or other waste disposal site, such as a transfer station. In Alaska, three-quarters of the 229 tribal communities have residents living within 1 mile of unlined landfills which lack design performance, are open access, and typically use open burning without emissions

[3] Environmental Protection Agency, 2024. *Draft Considerations and Resources for Assessing Tribal Exposures in TSCA Risk Evaluations*

treatment as a waste management strategy. In the draft risk evaluation, EPA acknowledged that 1,2-DCA groundwater contamination from unlined landfills can occur but did not evaluate risks from exposure to tribes that live in close proximity to unlined landfills and use this potentially contaminated groundwater for a variety of purposes—e.g. drinking, cooking, bathing, and subsistence practices. Oral exposures to tribal children who have higher incidental soil ingestion rates[3] were also not evaluated.

Tribes were correctly identified as a PESS in this draft risk evaluation; however EPA does not evaluate tribal populations as PESS in practice. EPA fails to apply appropriate fish consumption rates, does not consider additional tribal exposure pathways, does not aggregate exposures across pathways and conditions of use, and excludes the most vulnerable tribal groups from its analysis—children and elders. Furthermore, grouping tribal fish ingestion with that of subsistence fishers is not appropriate. Tribal populations and subsistence fishers constitute distinct PESS, with unique exposure patterns and susceptibility considerations and should be evaluated as such.

The NTTC urges EPA to evaluate tribal exposures and risk to 1,2-DCA in the final risk evaluation by applying the appropriate tribal exposure factors, using an appropriate lifetime exposure value, evaluating all age groups, and aggregating exposures before determining risk.

As always, we welcome any opportunity to collaborate with EPA in advancing the protection of tribal people and lifeways from the impacts of toxic chemicals. Should you or your staff have questions or comments regarding this letter, please contact me, Dianne Barton, NTTC Chair, at (503) 731-1259 / bard@critfc.org.

Sincerely,

Dianne C. Barton, Ph.D.
Chair, National Tribal Toxics Council