



Alaska Community Action on Toxics

Submission of Information on the Lifecycle of Plastics and Human Rights

21 April 2021

Alaska Community Action on Toxics (ACAT) is an environmental health and justice research and advocacy organization based in Anchorage, Alaska, USA. We are a participating organization of the International Pollutants Elimination Network (IPEN) and endorse the IPEN submission. We will focus our submission on the particular vulnerability of Arctic ecosystems and Indigenous peoples related to the toxic lifecycle of plastics, impacts on health, and implications for human rights.

Alaska and the circumpolar Arctic are warming at least twice as fast as the rest of the planet as a whole. Climate warming is exacerbating the mobilization and transport of persistent and toxic chemicals as well as plastics/microplastics within and into the north/Arctic. Accelerated melting of sea ice, permafrost, and glaciers is mobilizing sequestered contaminants and microplastics, threatening the health of our oceans, fish, wildlife, and peoples of the north. The north/Arctic is a hemispheric sink for persistent industrial chemicals and microplastics that are transported into the north on atmospheric and oceanic currents from lower latitudes through global distillation. Arctic Indigenous Peoples have some of the highest levels of persistent pollutants of any population on earth because of their reliance on traditional foods from the sea. Plastics and microplastics convey toxic substances that are additives or absorbed into the plastics into the food web, thus presenting a hazard to the health of fish, wildlife, and people. Microplastic particles have been revealed in the placentas of developing babies for the first time, which the researchers said was “a matter of great concern.” Scientists said they could carry chemicals that could cause long-term damage or upset the baby’s developing immune system.¹

Delbert Pungowiyi, a Yupik tribal leader from Savoonga on Sivuqaq (St. Lawrence Island) highlighted the threats to health and human rights in the Arctic caused by the interconnected issues of chemicals, plastics, and climate change: *“We are overwhelmed with concern about the health harms associated with climate change, the loss of sea ice and melting permafrost and the mobilization of chemicals and plastics – these are all interconnected. We are running out of time!”*

The petrochemical industry projects exponential increases in production of chemicals and plastics over the next three decades, as they see transition to renewable energy reducing the demand for oil as an energy source. Thus, petrochemicals are becoming a huge driver of global oil and natural gas production and use and major sources of climate-altering emissions. Investments in

¹ Ragusa et al. 2021. Plasticenta: First evidence of microplastics in human placenta. *Env. Int'l.*
<https://doi.org/10.1016/j.envint.2020.106274>

renewable energy must be accompanied by phase out of classes of persistent and toxic chemicals; investments and innovations in green chemistry and safe alternatives; as well as curbing the production and use of plastics.

Production of plastics exacerbates climate warming: 99% of plastics are derived from fossil fuels. The lifecycle of plastics will add more than 850 million metric tons of greenhouse gases to the atmosphere in the current year, an amount equal to the emissions from 189 five-hundred megawatt coal-fired power plants.²

Plastics in the Arctic:

- A recent study on the global microplastic transportation patterns revealed that the concentrations of microplastics were higher in the Arctic Basin compared to any other ocean basin in the world.³ As all plastic persists for hundreds of years, in the Arctic, the lifespan of plastic is dramatically longer due to colder water and the low concentration of oxygen combined with an absence of sunlight.
- “Thousands of particles of microplastic were in nearly every sample from the Arctic; a single liter of snow contained 14,000 grains of the stuff.” “A recent study found more than 12,000 microplastic particles per liter of sea ice. That amount is similar to the highest reported concentrations floating off polluted urban coasts. And it’s surpassed by the 14,000 particles per liter recently found in the snow on top of Fram Strait sea ice. Arctic sea ice is a major global sink for microplastic particles.”⁴
- 100% of beluga whales hunted in the Arctic had microplastics in their stomachs and intestines.⁵
- Arctic seabirds are exposed to hormone disrupting chemicals by eating plastics.⁶

Plastics and associated toxic chemicals threaten the health, well-being, and food security of Arctic Indigenous Peoples. Urgent global action is needed to address these threats, protect health, and human rights.

² <https://theintercept.com/2019/07/20/plastics-industry-plastic-recycling/>

³ <https://www.sciencedirect.com/science/article/abs/pii/S0269749117349400?via%3Dihub>

⁴ <https://www.nationalgeographic.com/science/article/remote-arctic-contains-more-plastic-than-most-places-on-earth>

⁵ <https://pubmed.ncbi.nlm.nih.gov/31733906/>

⁶ <https://pubmed.ncbi.nlm.nih.gov/32753218/>