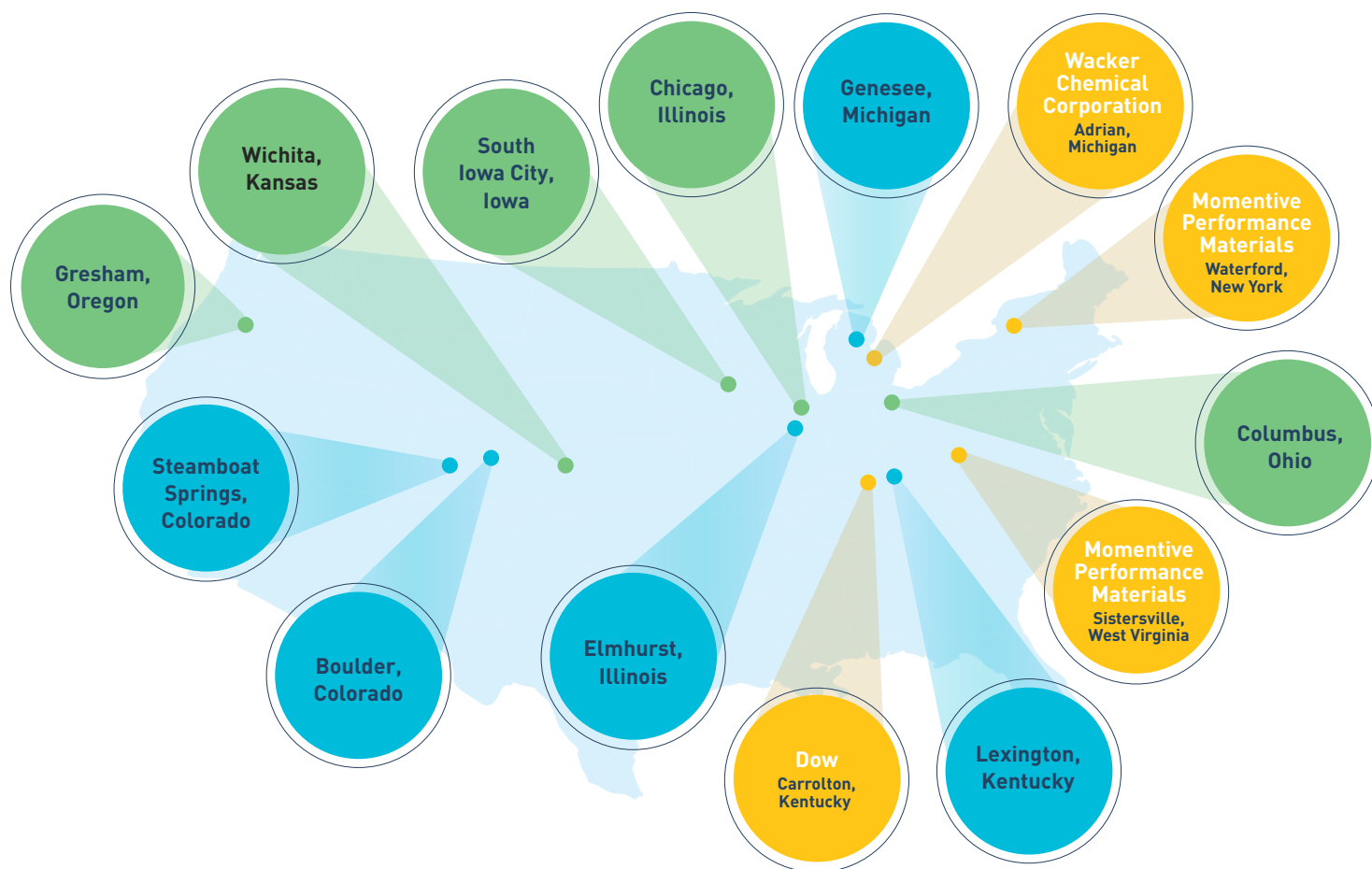


Real World Monitoring Data Indicate D4 Poses Negligible Risk to Environment

The silicones industry worked with EPA to design and implement a monitoring program that would produce the exposure (concentration) data the agency needs to conduct a thorough and scientifically sound environmental evaluation of D4.

D4 is a critical building block used to produce a wide range of silicone polymers which provide unique product performance characteristics that engender innovation in thousands of products that benefit key segments of the global economy, including: transportation, building and construction, health care, alternative energy technologies, and electronics. In these sectors, there are few, if any, satisfactory substitutes to silicone polymers.



Study Design

The study was comprised of 14 sites located around the U.S. Ten sites were municipal wastewater treatment plants that receive wastewater from residential areas and industrial facilities. Four sites were SEHSC Member facilities that were manufacturers and/or processors of D4 that release to surface waters following on-site treatment.



Residential Sites

These sites treat wastewater that comes primarily from residential sources.



Industrial Sites

These sites treat wastewater that comes primarily from industrial sources.



D4 Manufacturers and/or Processors

These sites release to surface waters following on-site treatment of wastewater.

Wastewater Treatment Plants

The United States has a vast system of municipal wastewater treatment plants (WWTPs). Sewers collect the wastewater from homes, businesses, and many industries, and deliver it to WWTPs for treatment. The basic function of wastewater treatment is to speed up the natural processes by which water is purified.¹



1. <https://www3.epa.gov/npdes/pubs/bastre.pdf>

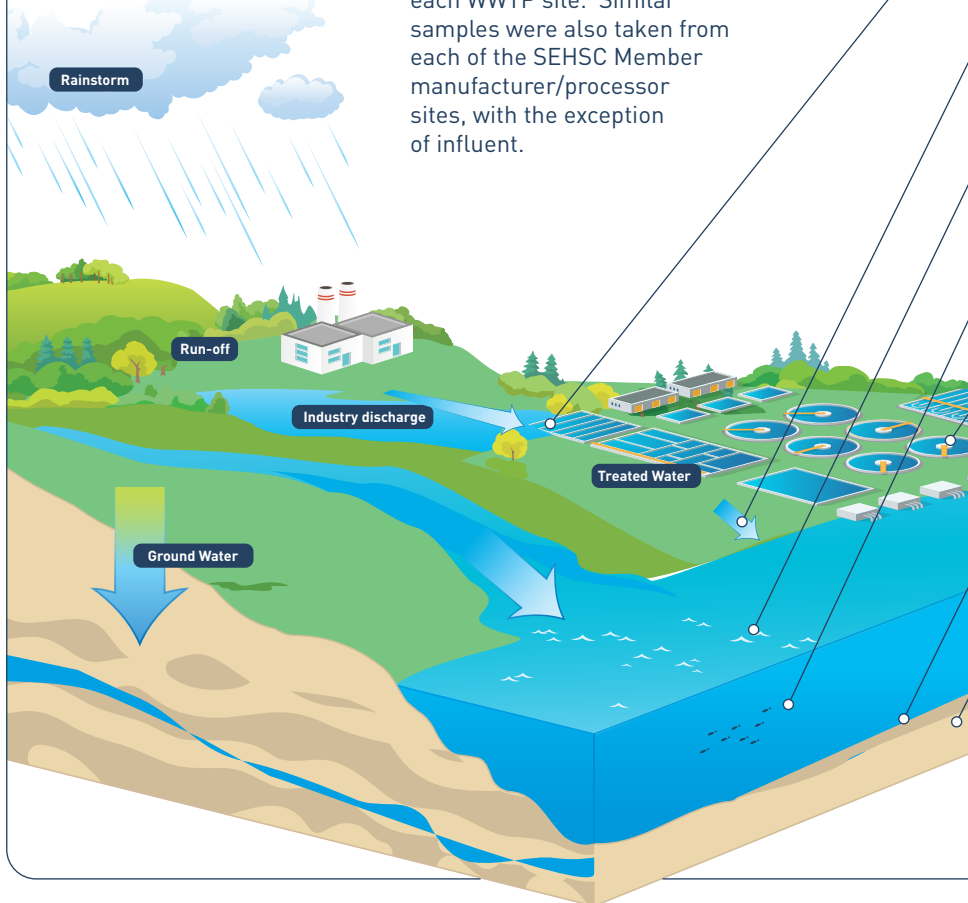
Example Industrial Site

When were samples collected?

Samples were collected from each of the 14 different sites between April 21, 2016 and December 15, 2016.

What was collected?

During two separate events, scientists collected and analyzed influent, effluent, surface water, sediment, fish, a sediment-dwelling organism, and biosolids from each WWTP site. Similar samples were also taken from each of the SEHSC Member manufacturer/processor sites, with the exception of influent.



1. Influent

Water that comes into a WWTP for treatment

2. Effluent

Water that is discharged from a WWTP to surface waters after treatment

3. Surface Water

Water on the surface of the planet, such as in a river, lake, wetland or ocean.

4. Fish

Water breathing organism that lives in surface water

5. Biosolids

Solid waste from a manufacturer/processing facility that is landfilled or incinerated

6. Sediment Dwelling Organism

Organism that lives in sediment

7. Sediment

Matter (e.g., sand, dirt) at the bottom of a surface water body

The silicones industry has pursued an independent, peer-reviewed environmental risk evaluation of the data. The environmental risk evaluation has been published in the peer-reviewed, international journal [Science of the Total Environment](#).

The Results Were Clear



The experts concluded that D4 posed negligible risk to the environment.



SEHSC believes that the evaluation demonstrates that no regulatory restrictions are needed for D4 in the United States.



This evaluation is consistent with risk management decisions for D4 in Canada and Australia.

As an Outcome of this Study



U.S. policymakers now have a robust data set to conduct its environmental risk assessment of D4.



These real-world data will help ensure the agency can rely on more accurate exposure (concentration) data, rather than modelled estimates, to assess the risks associated with D4.