

Carbon Tetrachloride (CTC)

What is Carbon Tetrachloride?

Carbon tetrachloride (CTC) is a critical building block chemical that is used as a raw material or processing agent for the manufacture of other chemicals and products, including next-generation refrigerants for automotive air conditioning systems and foam blowing agents.



What are the critical uses of CTC?

CTC is the feedstock for low-global warming potential hydrofluoroolefin alternatives used in next-generation refrigerants for automotive air conditioning systems manufactured in the U.S. CTC is used to make refrigerants for air conditioning systems in more than 95% of automobiles sold in the United States. CTC is also a feedstock in the production of foam blowing agents for insulation products to help increase energy efficiency of buildings and reduce associated greenhouse gas emissions.



Automotive: Refrigerants



Home and Construction:
Feedstock in foam blowing agents
for insulation products

What should policymakers know about CTC?

The Environmental Protection Agency (EPA)'s 2024 final risk management rule for CTC under the Toxic Substances Control Act (TSCA) imposed unnecessary burdens on industries critical to national infrastructure while failing to adequately consider scientific and technical factors. Significant issues with the final rule are:

Unrealistic Existing Chemical Exposure Limit (ECEL) - EPA has set an ECEL value significantly lower than international standards and 333 times lower than OSHA's permissible exposure limit. This level is impractical for routine monitoring and compliance with currently available technology. Meeting this ECEL will require investments in engineering controls and monitoring systems that are still under development, making the compliance timeline infeasible.

Insufficient Implementation Timeline - The rule grants only 18 months for initial monitoring and 21 months for full compliance with workplace chemical protection programs. This timeline does not account for the technical challenges and supply chain disruptions involved in achieving compliance with such a low occupational exposure limit.

Is CTC regulated?

CTC is extensively regulated to protect human health and the environment, with use and remediation primarily overseen by EPA. Facilities that manufacture CTC and use it as an intermediate are covered by the National Emission Standards for Hazardous Air Pollutants for the Synthetic Organic Chemical Manufacturing Industry, which require closed systems where exposure is tightly controlled. Such facilities must meet workplace limits established by the Occupational Safety & Health Administration.