



Metalworking Fluids and Chlorinated Paraffins

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Chlorinated paraffins (CPs) are used as extreme pressure additives in metalworking fluids, allowing the machining of difficult to machine materials. These compounds are produced at a range of molecular weights and with varying amounts of chlorination, and are generally classified for uses based on these ranges. Medium-chain chlorinated paraffins (MCCPs), containing 14 to 17 carbon atoms in their chains, long-chain chlorinated paraffins (LCCPs, 18 – 20 carbons), and the recently created category of very long-chain chlorinated paraffins (vLCCPs, >20 carbons) are used in metalworking fluids. Short chain chlorinated paraffins (SCCPs) containing 10 to 13 carbon atoms, mostly used as plasticizers and flame retardants, are not now in commerce in the US.

The environmental impact of CPs has been a topic studied and debated for more than 25 years. Specific concerns are environmental persistence, bioaccumulation, and biodegradability. The debate has occurred, in part, because the data come from many sources and are not all in agreement.

For the last several years, the US EPA has been addressing the environmental issues with CPs. Though their actions are not yet complete, it appears that MCCPs and LCCPs will no longer be allowed to be imported or manufactured in the US after mid-year 2017.

The EPA has taken several actions to indicate that vLCCPs will continue to be available for use in metalworking fluids, including the approval of a PMN for a vLCCP (CAS No. 1402738-52-6) in 2013; acceptance of an environmental risk assessment for that vLCCP; and a statement at the recent 5th International Conference on Metal Removal Fluids that this class of CPs will face no further scrutiny from the EPA.

QualiChem has been closely following the situation with CPs through publicly available information and consultation with our suppliers. We will continue to make metalworking fluids containing CPs available to our customers, but will be using vLCCPs in these products. Most of our chlorinated products now contain vLCCPs and we are in the process of converting the remaining few products that use MCCPs. Thus far, where the vLCCPs can be formulated into our products, we have seen products perform equivalently to products containing the shorter chain chlorinated materials.

This note has been written in response to misinformation that has been provided to some manufacturers. We want to emphasize that products containing chlorinated paraffins will continue to be available, that our products using vLCCPs will be available after the mid-year 2017 phase-out of MCCPs and LCCPs, and that the supply of vLCCPs for our manufacture of metalworking fluids has been assured.

If you would like to discuss this topic further or have additional questions, please contact your QualiChem distributor or you QualiChem Sales Engineer.

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