



Economic Activity Supported by Chlorinated Paraffins

Medium- and long-chain chlorinated paraffins are used in several industrial applications across multiple industries. Their largest use is in as additives to certain metalworking fluids, particularly for extreme pressure applications, such as wire drawing, stamping, and machining. Extreme pressure metalworking fluids are essential to the production of a wide variety of metal products used in automotive, construction, industrial, defense and mechanical applications.

Another important use for chlorinated paraffins is to impart flame retardant properties in plastics, elastomers, coatings and adhesives. In polyvinyl chloride (PVC) applications, chlorinated paraffins perform double-duty as both a secondary plasticizer and flame retardant. Chlorinated paraffins are also used to impart cost effective flame retardant properties to other materials, i.e., polyurethane foam, styrenic polymers, and polypropylene. Flame-retardant plastics are used in electrical, electronic, automotive, defense, and construction applications.

In paints, chlorinated paraffins are added to alkyd resin formulations to impart hardness, improve adhesion and provide resistance to water and petroleum products. Traffic paints are an important application.

Table 1 illustrates the economic activity in industries that use chlorinated paraffins, just some of the economic activity supported by chlorinated paraffin production. They include metalworking fluids and metal products that require processing with high pressure metalworking fluid additives. In addition, flexible and flame-retardant plastics and foam products are included. Finally, producers of coatings, adhesives, sealants and other elastomers treated with chlorinated paraffins are included. In total, industries that use chlorinated paraffins are estimated to generate \$32.8 billion in industry shipments and employ more than 100,000.

Table 1
Economic Activity of Industries that Use Chlorinated Paraffins (2013)

	Employees	Payroll (\$ mill)	Shipments (\$ mill)
Metalworking fluids and metal products	89,740	4,621	25,686
Plastics & foam	14,695	695	5,995
Coatings, adhesives, & rubber	2,175	120	1,106
Total	106,610	5,436	32,787

Sources: Census Bureau, American Chemistry Council analysis

Beyond the industries that directly use of chlorinated paraffins, there are literally hundreds of thousands of products that may contain or were processed using chlorinated paraffin substances, including automobiles, aircraft, office furniture, houses and other buildings, computers, etc.