

Metalworking - Components: Label-Free Coolant Technology Eliminates Dermatitis Machining Aluminum Components

QUAKERCOOL® 7750

The Challenge

A global supplier of custom die cast parts across various industries was having serious problems with their machining coolant. This U.S. based customer was experiencing foul odors in the sumps while operators were suffering from dermatitis. The competitive product was also leaving residue on the machines and parts described by the operators as a "greasy" film. The customer turned to Quaker Houghton for a product that would:

- Improve operator acceptance
- Eliminate "greasy" residue
- Provide longer sump life
- Deliver superior machining on AL 380 for drilling, milling, reaming, and tapping

The Solution

The competitive product was a chlorine and sulfur-free water-soluble coolant with corrosive and irritation GHS Hazards on the label. The Production Manager stated they were dumping some machines weekly due to the foul smell. Quaker Houghton assessed the customers needs and recommended QUAKERCOOL® 7750 as a solution. This product was chosen due to its label-free technology, superior biostability, and excellent lubrication for aluminum machining operations. Initially, the product was tested in two machines for three months and the operators reported lower residue and no skin irritation or odor. The customer was very happy with the results and QUAKERCOOL® 7750 was expanded to all machines in the department. They are currently looking to expand the usage of QUAKERCOOL® 7750 to the CNC department.

The Benefits

By converting to QUAKERCOOL® 7750 the customer benefitted from the following improvements:

- Consumption reduction from improved biostability
- 25% reduction in coolant usage from 10% concentration to 7-8% using QUAKERCOOL® 7750
- Extended sump life which reduced disposal costs and coolant/water usage, saving about \$8,000 annually
- Eliminated dermatitis and biostability issues

Process and Equipment

PRODUCT TITLE	PRODUCT INFORMATION
Materials	AL 380 Die Cast Aluminum
Machine	CNC and stand alone tapping machines
System Size	Various (20 gallon - 150 gallon)
Water Hardness	Approximately 120 ppm
Concentration or Ratio (of both the previous and new product)	Competitive Product = Used at 10% QUAKERCOOL® 7750 = Used at 7-8%
Pressure	Around 60-100 psi
Filtration	Paper filtration and screen filters
Operations	Drilling, tapping, milling, and reaming





The Product

QUAKERCOOL® 7750 is an innovative metalworking product formulation that does not require any GHS SDS designated hazards. Section 2 in GHS SDS states: "The product contains no substances which at their given concentration, are considered to be hazardous to health."

Besides being label free for HSE improvement and operator acceptance, QUAKERCOOL® 7750 offers a high degree of lubrication for aluminum and ferrous machining operations and performs especially well in aluminum tapping and reaming applications. QUAKERCOOL® 7750 has been designed to operate in water conditions from 100 ppm water to 500 ppm. It is recommended for machining aluminum and ferrous alloys.

Creating Sustainable Value

Quaker Houghton focuses on providing customer solutions that reduce waste, energy, water usage and chemical consumption, while improving operational processes, tool life and the health and safety of workers. We are committed to creating a positive social, environmental and economic impact on our world. By converting to label-free technology, QUAKERCOOL® 7750, the customer eliminated the use of a product with GHS Hazards. The operators are not suffering from dermatitis and improved biostability eliminated the foul odors. The customer no longer needs to dump their sumps once per week reducing their chemical discharge into the environment, decreasing waste treatment costs, and water usage. QUAKERCOOL® 7750 does not leave a greasy residue on the machines or parts, supporting a cleaner work environment and lowering the chance for slips and falls.

