



METAL REMOVAL



**Shaping the Future.**  
**Together.**



**Quaker  
Houghton™**  
Forward Together™



## Overview

Metal Removal Fluids are a critical component in metalworking processes. Acting as a lubricant and coolant, these fluids reduce friction between the workpiece and the machine tool. This diminishes frictional heat while removing the heat produced minimizing the problems associated with heat build-up including tool life and productivity. Additionally, metal removal fluids carry away the chips and fines generated in the working process leading to higher, more consistent quality parts. The right fluid choice will lead to cleaner fluid handling through microbial resistance, foam elimination, optimal detergency and tramp oil rejection.

Quaker Houghton offers an industry leading line of Metal Removal Fluids to many industries, including automotive, aerospace, fabricated metal goods, bearings, machinery, steel and more. *Our portfolio includes Soluble Oils, Semi-Synthetics, Synthetics and Neat Cutting and Grinding Oils.* All Quaker Houghton products are supported by experienced industry experts providing technical service, in-plant applications expertise and customer assistance.

Quaker Houghton creates value for the customer through a solution driven approach that will deliver lowest total cost of operations. Leveraging:

- An existing comprehensive portfolio of technology and performance based products for all operations, metals, and water conditions
- Dedicated technical expertise to support our customers' operational requirements
- Investment in science based product innovation and new product / solution development
- Product stewardship and global regulatory compliance
- Global connectivity and account management to drive best practices

## Coolant/Emulsion Product Range

Formulated for a wide range of end markets, Quaker Houghton technology platforms offer solutions for general cutting and grinding, automotive applications, aerospace and much more. Fluids for carbon steels, alloy steels, aluminum alloys, titanium and exotics such as Inconel are available in a number of Quaker Houghton platforms.

**QUAKERAL® 300 Series** of products are high-performance soluble oils formulated for heavy-duty machining and grinding operations of nonferrous metals requiring a high degree of lubricity, cleanliness, cooling, and corrosion protection. QUAKERAL® 300 series are designed for critical surface finish machining of cast aluminum alloys and for more difficult machining and

grinding operations on cast iron and steel alloys. These product types are resistant to microbiological growth including mycobacteria without the use of secondary amines.

**HOCUT® 795 Series** products are the original biostable products in the industry revolutionizing metal cutting operations employing soluble oil, semi-synthetic or full synthetic lubrication for heavy and light machining. Many have aerospace approvals in place with HOCUT® 795-B being the most widely specified cutting fluid in the aerospace industry. Effective across multiple metals, this series simplifies shop operations with EP grades available for the most demanding metal removal operations. HOCUT® 795-H, HOCUT® 795-B, HOCUT® 795-RHS, and numerous others satisfy the breadth of customer metal removal needs.

**QUAKERCOOL® 700 Series** of products are high-performance, mineral oil free, chlorinated paraffin free microemulsion metalworking fluids for ferrous machining and grinding operations. Formulated to meet lubrication requirements from light to heavy duty, these products deliver premium surface finish quality and consistent lubrication. This product series is formulated to maintain aqueous conditions unfavorable to microbes. Included in this series are QUAKERCOOL® 710, QUAKERCOOL® 730, QUAKERCOOL® 750 and QUAKERCOOL® 770.

**HOCUT® 4000 Series** offer performance suitable for heavy duty and extreme pressure applications machining both ferrous metal and aluminum. Based on soluble oil, semi-synthetic or synthetic chemistries, the HOCUT® 4000 series has products for all types of water quality. Fundamentally formulated for biostability, the series employs no boron, no formaldehyde generating materials and no secondary amines.

**QUAKERCOOL® 5035 Series** are high performance, ultra-stable semi-synthetic metalworking soft water coolants for lubrication of light to heavy duty multi-metal applications. Engineered for superior emulsion stability with soft water, the QUAKERCOOL® 5035 series delivers exceptional tool life, reduced cycle time and therefore significant operational savings. QUAKERCOOL® 5035 series of products are specifically designed for machining operations that requires great biostability, excellent corrosion and rust protection for cast iron, steel, stainless steel, titanium and aluminum.

**QUAKERCOOL® 7000 Series** of products are high-performance micro-emulsions for multiple metals where boron free product is necessary for demanding premium surface finish quality and consistent lubrication. Ideal for machining aluminum, ferrous alloys and copper. Included in this series are QUAKERCOOL® 7350 (Excellent Yellow Metal Compatibility), QUAKERCOOL® 7450, QUAKERCOOL® 7750 and others.

**QUAKERCOOL® 8000 Series** of products are high performance soft water compatible synthetic coolants for ferrous alloys, cast iron, aluminum or titanium alloys. Many of the QUAKERCOOL® 8000 series products can be mixed with each other for optimization of machine processes and coolant recycling programs. Each product in the series is to be used in specified manufacturing operations from drilling, reaming, tapping, vertical broaching etc. The engineered lubrication levels of each product allows for flexibility to utilize the most optimum product for coolant cost vs. plant machining process. Included in this series are those designed for ferrous alloys such as the QUAKERCOOL® 8010, QUAKERCOOL® 8018, QUAKERCOOL® 8054 as well as those suitable for multi-metal applications namely QUAKERCOOL® 8013, QUAKERCOOL® 8020, plus others.

**HOCUT® 8000 Series** of soluble cutting fluids employ predominantly soluble oil for base lubricity and are fundamentally formulated to be biostable without the use of boron, formaldehyde generating materials or secondary amines. This series of multi-metal heavy duty and some EP grades, are targeted for exotic aerospace alloys, Titanium, as well as steels and more typical aluminum. The HOCUT® 8000 series offers revolutionary emulsion chemical technology delivering cleaner operations, lower drag out, low foam, super stable emulsions and high wettability. These traits deliver cost savings in the way of long tool life, long sump life, lower usage of make up product and effective separation of aluminum fines.

## Neat Cutting and Grinding Oils

Our neat cutting oils were formulated specifically to be compatible with the strict requirements of original equipment manufacturers (OEMs). Quaker Houghton's comprehensive line of neat oils offers extended tool life for applications ranging from light duty cutting to heavy duty broaching. Our grinding oils provide products for both high speed grinding, as well as specialized applications. Our oils address common operational demands, such as high lubricity, extended tool life, light color, low odor, and reduced misting.

### DUAL & TRI-PURPOSE

#### WOCOCUT-SM & MACRON OILS

Many products in these lines are Dual Purpose and/or Tri-Purpose. These product lines come in a wide range of viscosities and range from light duty to heavy duty.

These product lines contain a range of EP additives including Chlorine, Sulfur, Phosphorus, and fat content. Included in these series are: WOCOCUT SM-165, MACRON 221 M-32, and MACRON 620 M-32.

### SWISS MACHINING

#### PROCUT & CUT-MAX® OILS

Quaker Houghton provides an extensive list of products for any Swiss Machining application. These product lines come in a wide range of viscosities and range from light duty to heavy duty. These product lines contain a range of EP additives including Chlorine, Sulfur, Phosphorus, and fat content. Included in these series are: PROCUT 90, PROCUT 83, and CUT-MAX® 340 SP-17.

### HONING & GRINDING

#### WIOLAN®, WOCOHONE, & MACRON OILS

These three lines will meet all your Honing needs. All products are specifically formulated with viscosity and EP. Included in these series are: WIOLAN® SH-10, WOCOHONE 8915, and MACRON 2405 M.

### GENERAL PURPOSE HEAVY DUTY

#### GARIA®, PROCUT, & CUT-MAX® OILS

Quaker Houghton provides an extensive list of products for any general purpose and heavy duty applications. These product lines contain a range of EP additives including Chlorine, Sulfur, Phosphorus, and fat content. Included in these series are: GARIA® 421 CM-12, PROCUT 139, and CUT-MAX® 570.

#### QUAKERCUT® XP & EP Series

The QUAKERCUT® XP series of products are extra high performance neat cutting oils based on advanced ester technology derived from renewable resources. These types of products are particularly well suited for both ferrous and nonferrous honing and grinding operations where good wettability is required. This wetting phenomenon provides high washing performance ensuring clean finishing stones or grinding wheels. Included in this series are QUAKERCUT® 005 XP, QUAKERCUT® 010 EP, QUAKERCUT® 020 EP, as well as other viscosity grades.

We offer a range of services to help the world's most forward-looking metalworking companies run even more efficiently and effectively



QH FLUIDCARE™  
Managed Services



QH Technical  
Services



QH Engineering  
Services



QH Equipment  
Solutions

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