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## MASTER CHEMICAL ENTERS ITS THIRD DECADE IN THE UK ... with its main focus on R&D

In the twenty years since Master Chemical Corporation established a foothold in the UK a lot has changed in the metalworking world. And naturally the UK arm of this specialist in production fluids has changed with it. Now the company that was initially set-up to supply and support the UK market not only serves the wider Europe and beyond but is also the research and development centre for the entire region.

Originally all of its TRIM® products were formulated and manufactured in the US. Today Master Chemical Europe (MCE), as it is now known, takes just 5% of its products from the US and develops and manufactures the remainder in the UK and a few in Italy. Around 35 active TRIM® metalworking fluids, specifically for European use, now account for 90%+ of MCE sales. And occasionally these products are also specified by the US or Asia, typically by European aero- or auto manufacturers.

So what has driven this trend? The answers are specific European legislation and to a high degree, industry and manufacturers' preference. Technical Director, Peter Blenkinsop joined Master Chemical Europe in 1996 as its first research chemist. "We introduced our first product specifically for the European market in 2001. This was an important move as by this time the needs of the European manufacturers were differing greatly from those of their US counterparts."

Chlorine-free formulation was the first major differentiator. Although a European industry trend rather than a legal necessity, this requirement is now standard in France, Germany and Scandinavia. It is also commonplace in the aerospace sector where chlorine is considered to be detrimental to the longevity of alloys used in aero engine manufacture.

Many MCE products have been formulated to remove this ingredient but there are also markets, the UK and Spain in particular, that still have a broad acceptance of long-chain chlorinated paraffin. It is odourless and used as an effective extreme pressure additive to improve performance. So whilst the lion's share of its range is now chlorine free, MCE still offers some chlorinated products.



The important factor here is that the company has the research and development skills to meet every need in the European market. Indeed unlike many of its competitors MCE has continued to invest substantially in this aspect of its business. In 2008 MCE moved to new premises in order to treble its technical capacity and since that time, two more chemists have been added to R&D team.

Formaldehyde donor biocides are another case in point. Although formulations with these additives do not contain formaldehyde, the name is sufficient for a market such as France - and indeed specific end-users - to reject it. As a result, MCE offers products with- and without formaldehyde and formaldehyde donor biocides to suit the requirement of the customer.

Boric acid is the industry's latest hot potato as in June 2010 it was added to the REACH substances of high concern list. In the metalworking field it is commonly used as an additive that is both a highly cost-efficient bactericide and a corrosion inhibitor. However, for MCE this is just another development for which it will find solution. The company already has a number of products that don't contain boric acid. It also has the R&D resources to provide formulations that meet industry's ultimate needs in compliance with any legislation that may eventually be imposed.

"This is a difficult task but also an opportunity for us," Peter Blenkinsop explained. "We have very capable research and development chemists both here and indeed in our other technical centres across the world. Many of our competitors haven't got this capability. Master Chemical has recognised that R&D is the major strength that will underpin its future."

Another important benefit is the basis from which products are developed by MCE. It has excellent formulation platforms for synthetics, semi-synthetics and emulsions that perform exceptionally well and from which other products can be derived. "As we're not reinventing the wheel every time, it's a very cost-effective foundation for R&D," Peter Blenkinsop added. "These are the starting point for maybe 50% of our developments."

Alongside the continuous improvement of its formulations, Master Chemical is also trawling the wider chemical world for inspiration. It is keeping tabs on other processes in other fields that may provide a brand new approach to metalworking fluid formulation.

The metalworking fluids sector is one in which formulators are continuing to be lost. There are few coming through the system to develop the next generation of products. "It takes 10 - 15 years for an R&D chemist to become good at formulating metalworking fluids," Peter Blenkinsop said.

He concluded: "There are professors in organic chemistry who can't formulate. Yet there are also people without any qualification that have been in the business for years that make fantastic products. It's a question of experience and we have been careful to create a succession plan at Master Chemical as R&D is such a critical part of our business."

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## **About Master Chemical Corporation**

Master Chemical Corporation was founded on November 13, 1951. Since then, working closely with the worldwide metalworking community, Master Chemical Corporation has developed and marketed a full line of specialty cutting and grinding fluids, cutting oils, concentrated washing and cleaning compounds, and rust preventives all under the TRIM® brand trademark. These products are both environmentally sound and when used in conjunction with Master Chemical's XYBEX® Coolant Recycling and Filtration Systems, are the most durable and stable products available anywhere today. Master Chemical has always been committed to the safety of the people who use our products, the protection of our planet, the environment we live in, and the overall impact on our customers' profitability. Master Chemical serves customers globally. For further information please contact a local distributor near you <a href="http://www.2trim.us/distributors.php">http://www.2trim.us/distributors.php</a>, call us at (44) + (0) 1449 726800, or visit our website at <a href="http://www.masterchemical.com">www.masterchemical.com</a>

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