

# THERE IS A DIFFERENT APPROACH TO SYSTEM MAINTENANCE

PRODUCTIVITY WITHOUT COMPROMISE



IT'S MORE THAN JUST OIL. IT'S LIQUID ENGINEERING.

 **ALUSOL XBB**

# NOW YOU CAN CUT THE COMPROMISE IN ALUMINIUM MACHINING

---

**When producing precision components for the automotive, machinery and fabricated metal goods industries there are many demands and challenges faced. It is a daily requirement to hit increasingly high production targets, deal with pressure to refine schedules and reduce downtime.**

**Manufacturers are forced to make a choice, which often results in a compromise on a daily basis.**

- Performance balanced with the need for anti-bacterial treatments
- Biocide use balanced with health and safety requirements
- pH stability balanced with fluid maintenance

Castrol's experts have been working to help combat these conflicting challenges to enable you to manage your cutting fluid maintenance without compromising overall performance. Castrol has formulated Castrol Alusol SL 51 XBB – a unique technology which is boron and biocide free and ensures:

**Productivity for Longer**

- Stable fluid with pH control technology
- System cleanliness and waste disposal

**Fewer interventions**

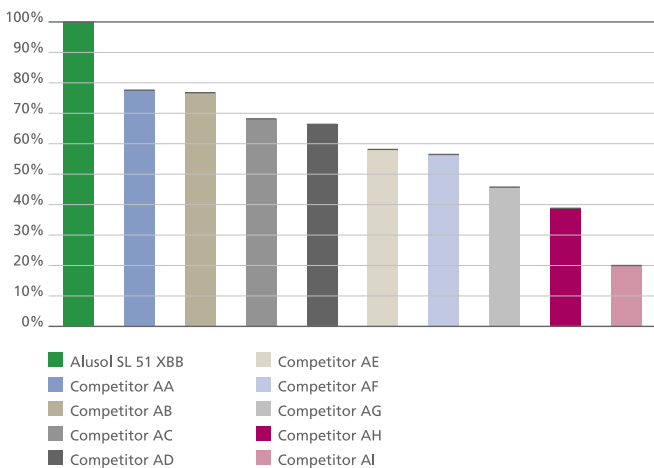
- Less fluid top-up
- Eliminates or reduces biocide use
- Less manpower

**Precision performance with stability**

- Lubricity – tool life, surface finish
- Reduced scrap

# PRODUCTIVITY FOR LONGER

Tests show that Castrol Alusol SL 51 XBB can remain effective for longer than conventional machining fluids, because the formulation is inherently more resistant to changes in pH due to microbiological activity. It can reduce the time and cost associated with additional top ups helping you to meet production goals.



**In laboratory testing Castrol Alusol SL 51 XBB has been shown to be able to neutralise up to 33% more acidic material than standard aluminium cutting fluids. This means it remains effective for longer.\***

\* based on titrating 9 fluids until a pH of 8.5 is reached.

## PROVEN BENEFITS

### Example one

A European customer, producing profiles for the automotive industry was having issues with their existing product due to emulsion instability and blocked filters.

After switching to Castrol Alusol SL 51 XBB, they saw a number of benefits:

- Drain interval increased from six months to ten months
- Filters were no longer blocked due to cleaner machines

### Example two

A customer specialising in turning, tapping and reaming who uses several machine tools experienced benefits with Castrol Alusol SL 51 XBB:

- Consumption reduced by 20%
- After seven months, the inside of their machine working areas were cleaner
- The operators environment became safer

### Example three

An automotive parts manufacturer in Hungary looking to reduce coolant consumption on its aluminium machining tested Castrol Alusol SL 51 XBB against their standard aluminium cutting fluids. Using Castrol Alusol XBB at 5% concentration and a standard cutting fluid at 6–7%, results showed the following:

- No drop off in machining performance quality using Castrol Alusol XBB
- 10% less top-up compared to a standard cutting fluid
- Stable pH during the whole test
- No microbiological infection or skin irritation

# FEWER INTERVENTIONS

Castrol Alusol SL 51 XBB extends fluid life and ultimately reduces interventions and downtime as proven in the comparative laboratory analysis.

Product	Representative contamination		
	Bacteria		
	Count	Ok until day	Events of biocide addition
Alusol SL 51 XBB	10 <sup>2</sup>	>80	0
Competitor A	10 <sup>5</sup>	34	1
Competitor B	10 <sup>7</sup>	41	2
Competitor C	10 <sup>4</sup> - 10 <sup>5</sup>	48	1

## PROVEN BENEFITS

### Example

A European automotive manufacturing customer used Castrol Alusol SL 51 XBB and they were able to:

- Eliminate the usage of biocides with a saving of around 11 Tonnes
- Eliminate the usage of fungicides with a saving of around 1.8 Tonnes
- Reduce the lubricant usage by 34% when compared to the previous product over a period of one year

### We have tested Castrol Alusol SL 51 XBB against typical competitor products.

At the end of 80 days test period, bacteria growth with Castrol Alusol XBB was still within acceptable limits, without the need for any intervention.

By this time, all three competing products needed at least one instance of biocide addition, the first one as early as day 34.

Castrol Alusol SL 51 XBB improves operator conditions, and your health and safety profile as it is boron and biocide free.

What's more, it significantly reduces, and in some cases eliminates the need for biocide additives.

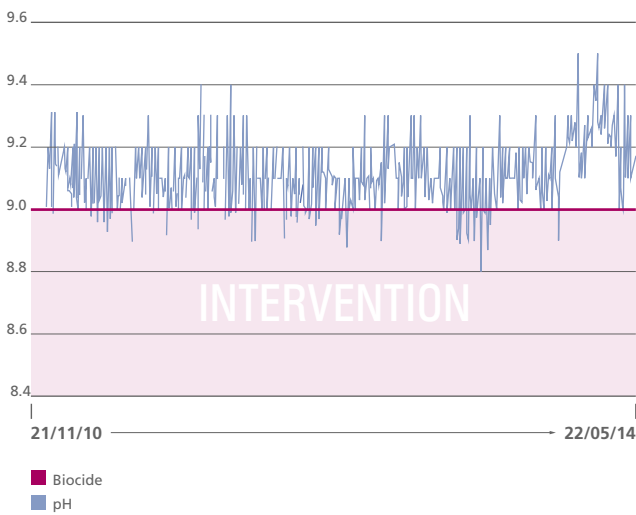
**It can save up to 30% in overall fluid top-up volumes.\*\***

\*\* Based on customer experiences from 4 of our customers switching from standard aluminium cutting fluids we have seen that Castrol Alusol SL 51 XBB can save up to 30% in overall fluid top-ups.

# EXPERIENCE AT A MAJOR AUTOMOTIVE MANUFACTURER

## Before

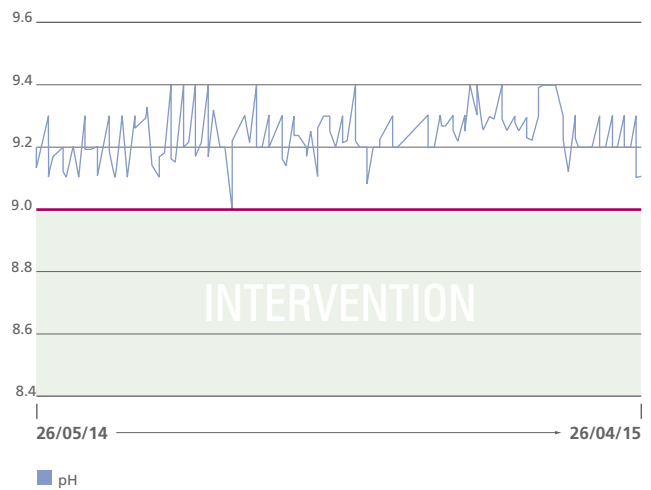
Using standard cutting fluids



Castrol Alusol SL 51 XBB significantly reduces or can eliminate the need for biocide additives reducing time and cost.

## After

Using Castrol Alusol SL 51 XBB cutting fluids

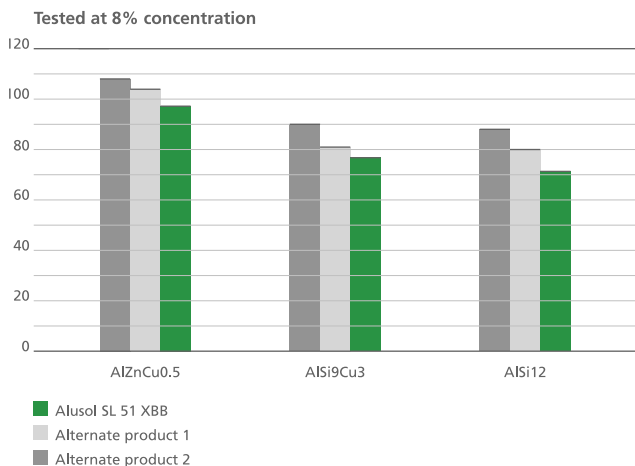


Biocide intervention reduced to zero.

# PRECISION PERFORMANCE WITH STABILITY

Its excellent lubricating properties help prevent swarf build up overall, assuring a high quality surface finish, low scrappage rates and tooling costs, and improving quality to the final cut.

Tapping torque test results demonstrate good lubrication on different aluminium alloys which typically benefits tool life and surface finish.



**Castrol Alusol SL 51 XBB performs well against the commonly used alternative products also tested by Castrol.**

## PROVEN BENEFITS

### Example one

A Japanese customer machining motor shafts had been having problems with tool life and bad odours from their existing product.

After using Castrol Alusol SL 51 XBB, they gained longer tool life due to:

- No tool welding compared to a poor 0.23 mm tool with their previous product
- Reduced tool burning

### Example two

A German machine tool manufacturer hampered by foaming, fungi, product instability and skin issues among staff. Anti foam and biocide additives had to be introduced every six weeks.

Nine months after swapping to Castrol Alusol SL 51 XBB the company achieved the following:

- No microbiological problems, instability, or skin problems and a reduced volume of service additives
- Same machining performance with a lower concentration of 7% (10% previously)
- Health and safety requirements met by eliminating foaming and producing a cleaner environment
- Reduced coolant consumption and cost
- Fewer stoppages and greater productivity

**Castrol Alusol XBB delivers precision performance in aluminium machining without compromising your productivity.**

# PRODUCT APPLICATION GUIDE



Application	Cast iron	Low-medium alloyed steel	High alloyed stainless steel	Aluminium alloys	Magnesium alloys	Yellow metals
Grinding		•	•	•		•
Milling and Turning (general machining)	•	••	••	••		•
Drilling	•	••	•	••		•
Reaming and tapping	•	••	•	••		•
Broaching	•			••		•

- Possible application, please consult Castrol prior to use
- Suggested core application



**Please contact us today for further information**

All products and services supplied are provided under Castrol Industrial's standard conditions of sale. You should consult your local Castrol expert if you require any further information.

Castrol and the Castrol logo are trademarks of Castrol Limited, used under licence.

Produced by Lubricants UK Ltd. Registered office:  
Chertsey Road, Sunbury-on-Thames, Middlesex, TW16 7BP, United Kingdom.  
Registered in England & Wales, no 97216.

© 2016 Lubricants UK Ltd. All rights reserved.

[www.castrol.com](http://www.castrol.com)