

SAFER. MORE EFFICIENT. LONGER SYSTEM LIFE.

Cutting fluids that perform longer than standard cutting fluids*,
formulated without boron or formaldehyde-releasing agents.**


ALUSOL[®]
XBB


HYSOL[®]
XBB

CASTROL
XBB USERS
REDUCED
— OR —
ELIMINATED
ADDITIVE
TOP-UPS**

* Proven in lab tests and seen in real production conditions.
** Based on Castrol XBB customer feedback.
*** Can contain traces of boron and formaldehyde-releasing agents.

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





MEET XBB: FLUID TECHNOLOGY THAT MEANS YOU CAN CUT THE COMPROMISE

Until now, cutting fluids for metals have needed particular care and attention to keep them in good working condition — avoiding poor sump life, increased additive usage, bacterial or fungal infections, bad odors and unpleasant working environments and, ultimately, high rejection rates. To achieve this, traditional cutting fluids contain boron, formaldehyde-releasing agents or biocides. But using these chemicals is increasingly at odds with health and safety regulation. It's an ongoing balancing act — one Castrol's technical experts have overcome with XBB: a unique formulation method that prolongs the life of cutting fluids without the use of additives.

WORK FOR LONGER — WITHOUT ADDITIVES

Every metalworking engineer knows the distinctive smell of bacteria and fungi contaminating the cutting fluid — but the bad odor is the least of your problems. Microbes also produce acidic by-products in cutting fluids, leading to pH depletion, unstable emulsion and poor performance.

Soluble metalworking fluids need particular care to keep them in good working condition. Where other coolants need topping up with service additives to keep working well, cutting fluids with Castrol's XBB technology have been proven to perform without these measures for longer than conventional alternatives. The result is a savings in cost and manpower, while also improving health and safety for your personnel.

STABLE PH MEANS CONSISTENT PERFORMANCE

The majority of cutting fluids need a constant pH level of above 8.9; too much acid — from degradation, contamination or swarf — can impair performance, and corrode parts and tools alike, compromising productivity and results.

The only way to avoid these pitfalls is to continually monitor pH levels, along with the concentration and the microbiological makeup of the fluid, and make adjustments accordingly. But with Castrol XBB technology you can enjoy stable manufacturing conditions — and consistent results — for far longer.

BUILT FOR PERFORMANCE WITHOUT COMPROMISE

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

DAILY COMPROMISE

It's an ongoing balancing act — one Castrol's technical experts have overcome with XBB: a unique formulation method that prolongs the life of cutting fluids without the use of additives.

- Performance balanced with the need for antibacterial 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.

AN OPPORTUNITY TO IMPROVE

- Formulated without boron* to meet boron-free waste requirements
- Organic chlorine- and formaldehyde-free formula,* which may help you to fulfil aspects of legislative and waste-treatment requirements that specify that these chemicals be excluded
- Extended fluid life to help reduce maintenance and machine downtime
- Low foam in recommended water conditions
- Lubrication package designed to try to help enhance tool life and improve surface finish on metal machining
- Good wetting properties to help reduce coolant drag-out and help deliver cleaner machine tools and components
- Suitable for a wide range of materials and applications to provide the opportunity for product consolidation

Castrol XBB gives you the opportunity to avoid the compromise between safety, quality, productivity and cost. Your production environment is less often interrupted by fluid performance issues and unscheduled maintenance and it's far easier to meet your production goals and keep down costs.

CASTROL PRODUCTS WITH XBB TECHNOLOGY ARE PROVEN TO NEUTRALIZE MORE ACIDS AND KEEP FLUID PH AT A STABLE LEVEL**

– keeping the fluid within operational parameters, and protecting your productivity and output, for longer.

* Can contain traces of boron and formaldehyde-releasing agents.

** Proven in lab tests and seen in real production conditions.

FIND YOUR **IDEAL** CUTTING FLUID

Castrol's XBB technology has been specifically developed to perform better and last longer than conventional cutting fluid alternatives* in a variety of environments. It has been designed to make production environments safer and keep in line with increasingly stringent Health and Safety requirements.

Using Castrol's XBB solutions, you can reduce costs without sacrificing performance, and simplify all aspects of fluid management.

PRODUCT APPLICATION GUIDANCE

Castrol has expanded its portfolio of XBB technology cutting and grinding fluids to include product options for machining a wide range of metal alloys. For customers working in soft water areas, excessive foaming can cause problems during manufacture. The products highlighted in **GREEN** are designed to work better in these environments — reducing foaming or eliminating it completely.

		METAL TYPE			
		CAST IRON	LOW ALLOYED STEEL	HIGH ALLOYED STAINLESS STEEL	ALUMINUM ALLOYS
APPLICATION	GRINDING	CASTROL HYSOL SL 30 XBB •• CASTROL HYSOL SL 36 XBB ••	CASTROL HYSOL SL 30 XBB •• CASTROL HYSOL SL 36 XBB •• CASTROL ALUSOL SL 51 XBB • CASTROL ALUSOL SL 61 XBB • CASTROL ALUSOL SL 78 XBB •	CASTROL HYSOL SL 30 XBB •• CASTROL HYSOL SL 36 XBB •• CASTROL ALUSOL SL 51 XBB • CASTROL ALUSOL SL 61 XBB • CASTROL ALUSOL SL 78 XBB •	CASTROL HYSOL SL 36 XBB • CASTROL ALUSOL SL 51 XBB • CASTROL ALUSOL SL 61 XBB •• CASTROL ALUSOL SL 78 XBB ••
	MILLING, TURNING (General Machining)	CASTROL HYSOL SL 30 XBB •• CASTROL HYSOL SL 36 XBB •• CASTROL ALUSOL SL 51 XBB • CASTROL ALUSOL SL 61 XBB • CASTROL ALUSOL SL 78 XBB •	CASTROL HYSOL SL 30 XBB •• CASTROL HYSOL SL 36 XBB •• CASTROL ALUSOL SL 51 XBB •• CASTROL ALUSOL SL 61 XBB •• CASTROL ALUSOL SL 78 XBB ••	CASTROL HYSOL SL 30 XBB • CASTROL HYSOL SL 36 XBB • CASTROL ALUSOL SL 51 XBB •• CASTROL ALUSOL SL 61 XBB •• CASTROL ALUSOL SL 78 XBB ••	CASTROL HYSOL SL 36 XBB • CASTROL ALUSOL SL 51 XBB •• CASTROL ALUSOL SL 61 XBB •• CASTROL ALUSOL SL 78 XBB ••
	DRILLING	CASTROL HYSOL SL 30 XBB •• CASTROL HYSOL SL 36 XBB •• CASTROL ALUSOL SL 51 XBB • CASTROL ALUSOL SL 61 XBB • CASTROL ALUSOL SL 78 XBB •	CASTROL HYSOL SL 30 XBB •• CASTROL HYSOL SL 36 XBB •• CASTROL ALUSOL SL 51 XBB •• CASTROL ALUSOL SL 61 XBB •• CASTROL ALUSOL SL 78 XBB ••	CASTROL HYSOL SL 36 XBB • CASTROL ALUSOL SL 51 XBB • CASTROL ALUSOL SL 61 XBB • CASTROL ALUSOL SL 78 XBB ••	CASTROL HYSOL SL 36 XBB • CASTROL ALUSOL SL 51 XBB •• CASTROL ALUSOL SL 61 XBB •• CASTROL ALUSOL SL 78 XBB ••
	REAMING, TAPPING	CASTROL HYSOL SL 30 XBB •• CASTROL HYSOL SL 36 XBB •• CASTROL ALUSOL SL 51 XBB • CASTROL ALUSOL SL 61 XBB • CASTROL ALUSOL SL 78 XBB •	CASTROL HYSOL SL 30 XBB • CASTROL HYSOL SL 36 XBB • CASTROL ALUSOL SL 51 XBB •• CASTROL ALUSOL SL 61 XBB •• CASTROL ALUSOL SL 78 XBB ••	CASTROL ALUSOL SL 51 XBB • CASTROL ALUSOL SL 78 XBB ••	CASTROL HYSOL SL 36 XBB • CASTROL ALUSOL SL 51 XBB •• CASTROL ALUSOL SL 61 XBB •• CASTROL ALUSOL SL 78 XBB ••
	BROACHING	CASTROL HYSOL SL 30 XBB •• CASTROL HYSOL SL 36 XBB •• CASTROL ALUSOL SL 51 XBB • CASTROL ALUSOL SL 61 XBB • CASTROL ALUSOL SL 78 XBB •	CASTROL HYSOL SL 30 XBB • CASTROL HYSOL SL 36 XBB • CASTROL ALUSOL SL 61 XBB • CASTROL ALUSOL SL 78 XBB •	CASTROL ALUSOL SL 78 XBB •	CASTROL HYSOL SL 36 XBB • CASTROL ALUSOL SL 51 XBB •• CASTROL ALUSOL SL 61 XBB •• CASTROL ALUSOL SL 78 XBB ••

RECOMMENDED PRODUCTS FOR SOFT WATER MACHINING

RECOMMENDED PRODUCTS FOR HARD/NORMAL WATER MACHINING (contact a Castrol sales engineer for more details)

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

Castrol Alusol SL 78 XBB

Castrol Alusol SL 78 XBB is a multi-purpose, multi-metal compatible semi-synthetic designed for heavy duty machining of alloyed steel, stainless and aluminum alloys without the use of extreme pressure additives like chlorine, sulfur or phosphorus. Soluble performance in a semi-synthetic package.

Castrol Alusol SL 61 XBB

Castrol Alusol SL 61 XBB is ideal for multi-purpose machining of aluminum alloys to low-to-medium-alloyed steel, and is suitable for both large central systems and single-sump machines.

Castrol Alusol SL 51 XBB

Proven to maintain pH at a constant level,[†] Castrol Alusol SL 51 XBB is an excellent all-round cutting fluid particularly suited to machining aluminum with a high silicon content. It's formulated to last longer than conventional fluids and produces a high-quality finish while reducing the need for service additives.

Castrol Hysol SL 45 XBB

Created specifically for the aerospace industry, Castrol Hysol SL 45 XBB gives outstanding machining performance with titanium, aluminum and low-alloyed steel. Approved by major aerospace OEMs, its boron- and biocide-free formulation means* there's no need to choose between safety and surface finish.

Castrol Hysol SL 36 XBB

A cutting fluid for ferrous alloys, formulated without boron or formaldehyde-releasing agents.* Tried and tested by plant managers. Castrol Hysol SL 36 XBB is ideal for machining cast iron and low-alloyed steel, and has also been used successfully with aluminum. It's proven to maintain pH levels in both large central systems and single-sump machines. This fluid is also designed to reduce foaming in soft-water environments.

Castrol Hysol SL 30 XBB

Castrol Hysol SL 30 XBB provides the highest levels of anti-corrosion performance in cast iron machining in all water qualities. It is formulated without boron, secondary amines and formaldehyde-releasing agents to meet the highest regulatory standards. Castrol Hysol SL 30 XBB has been specifically developed to help the bearing industry overcome the severe requirements of foam, long emulsion stability and anti-corrosion performance.

Each Castrol XBB product has been engineered to suit the needs of a particular cutting environment, so whether you're working with cast iron or aluminum, there's a solution for you.

TO DISCOVER THE PRODUCT BEST SUITED TO YOUR NEEDS, CHECK OUT [CASTROL.COM/XBB-US](https://www.castrol.com/xbb-us).

* Can contain traces of boron and formaldehyde-releasing agents.

† Based on Castrol XBB customer feedback.

FEATURES & BENEFITS

CONSTANT MANUFACTURING CONDITIONS – WORK HARDER, FOR LONGER

Castrol Alusol XBB and Castrol Hysol XBB fluids use a dual-action chemical buffer that resists changes in pH. The result is better machining performance, for longer than standard cutting fluids* — safeguarding quality, while reducing costs:

- **REDUCE** or eliminate the need for expensive treatment additive top-ups
- **EXCEED** system lifetime expectations — without formaldehyde-releasing agents, boron or biocides**
- **INCREASE** production efficiency, reduce costs and lessen demands on personnel
- **EXTEND** fluid life and eliminate unnecessary repairs and interventions

PRECISION PERFORMANCE WITH STABILITY

Castrol XBB preserves the cutting edge and helps to prevent build-up on the tool and part, resulting in a cleaner, more accurate finish. Its excellent lubricating properties prevent swarf build-up, and pH control reduces acid corrosion. Ultimately this results in lower scrap rates and tooling costs, and improved production quality.

GETTING AHEAD ON SAFETY

If you're currently using biocide additive top-ups in your cutting fluids — or using formulas that use boron or formaldehyde-releasing agents — then you could soon be affected by changes to legislation and best practice, such as the European Union's 10th Adaptation to Technical Progress (ATP) to the CLP (classification, labelling and packaging of substances and mixtures) regulation.

Castrol's XBB cutting fluids do not rely on boron, formaldehyde-releasing agents or biocides, so not only does using them protect your team, it also makes it easier to satisfy safety regulations — both today and tomorrow.

Ultimately you have less maintenance, less expense and a safer working environment, without ever compromising on performance.

KEY BENEFITS



SOFT-WATER
COMPATIBILITY



LONG
SYSTEM LIFE



HIGHER
LUBRICITY



IMPROVED
SAFETY



FEWER ADDITIVE
TOP-UPS

* Proven in lab tests and seen in real production conditions.

** Can contain traces of boron and formaldehyde-releasing agents.

PROVEN IN FOR SOFT-WATER CONDITIONS

If your cutting fluid foams in use, it's not lubricating properly. Systems can overflow, bringing production to a halt — and in soft-water areas, that's a common problem.

Castrol Hysol SL 36 XBB is formulated for soft-water regions, such as waters found in the Southern US. This low-foaming formulation can be used across a range of water hardnesses and is especially useful in applications prone to foaming due to low mineral content. Castrol Hysol SL 30 XBB and Castrol Alusol SL 61 XBB may also be an option for applications in soft-water conditions, please consult Castrol for recommendations prior to use.

TOP PERFORMANCE; FEWER TOP-UPS

The fact that Castrol XBB is formulated without boron or formaldehyde-releasing agents** improves operator conditions and your Health and Safety profile, and also results in fewer interventions and less monitoring and management of cutting fluids.

Where other coolants need topping up with service additives to keep working well, cutting fluids with Castrol's XBB technology have been proven to perform without these measures for longer than conventional alternatives.†

The fluid's excellent emulsion stability properties result in lower costs, and less time spent maintaining standards — which means more time for production.

REDUCE CORROSION

Castrol XBB is carefully engineered formula helps to protect against corrosion even at lower concentrations, resulting in less machine maintenance, lower costs and fewer rejected products.

**CUTTING FLUIDS WITH XBB
TECHNOLOGY, FORMULATED
WITHOUT BORON OR
FORMALDEHYDE-RELEASING
AGENTS,** ACHIEVE LONGER
SYSTEM LIFE.**



TRIAL XBB TECHNOLOGY FOR YOURSELF

Put cutting fluids with XBB to the test in your own plant,
and see the difference THEY MAKE.

To arrange a trial, contact Castrol today.

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www.castrol.com/industrial-US

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