

SERVICE LUB

MARCH 2017

Metalworking special

PRODUCTS IN THE SPOTLIGHT

BORON-FREE PRODUCTS

ENVIRONMENTALLY FRIENDLY

EMULSIONS WITH

RECYCLED WATER

TRADE FAIR NEWS

MTMS 2017



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Microspray Bio E22

SAVE UP TO 95% BY MICRODOSING

With its Microspray Bio E22 Unil Lubricants developed a biodegradable metal processing fluid that is suitable for working different types of metal. Because the microspray is directly applied to the surface to be treated, consumption can be reduced by no less than 95% compared to a traditional soluble emulsion.

Microspray Bio E 22 is a high quality full oil based on synthetic esters suitable for processing all kinds of steel including alloyed steels and stainless steel.

This metalworking fluid was developed for numerous cutting processes including milling, drilling, sawing and cutting.

Microspray MA AL

INEXPENSIVE AND ENVIRONMENTALLY FRIENDLY PROCESSING OF ALUMINIUM

Microspray MA AL was specially developed for processing aluminium. This microspray is also biodegradable, and with direct application on the surface to be treated up to 95% can also be saved on consumption.

Microspray MA AL is a vegetable-based, sprayed full metal processing fluid with low viscosity. The oil was created for machining aluminium and copper alloys. The fluid is highly suitable for tapping, milling and cutting aluminium and mainly stands out by the low consumption and extremely long tool life.

Form EV 883

TIME SAVINGS DURING FINAL PROCESSING

Form EV 883 is an evaporating metal processing fluid based on fatty alcohol that has been specially developed for processes such as bending, deep drawing, cutting, shaping, sawing and thread-cutting in steel to 5mm. Form EV 883 stands out by its high malleability and extremely long tool life.

Thanks to its low viscosity this oil can be easily applied by spraying or drop lubrication; with felt or with roller. Form EV 883 evaporates after processing, so the further degreasing of the parts is no longer needed.

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FULL METAL PROCESSING OILS

IN THE SPOTLIGHT

BORON-FREE ALTERNATIVES WITH THE ENVIRONMENT IN MIND

Boron-free

A boron-free alternative for all metal processing.

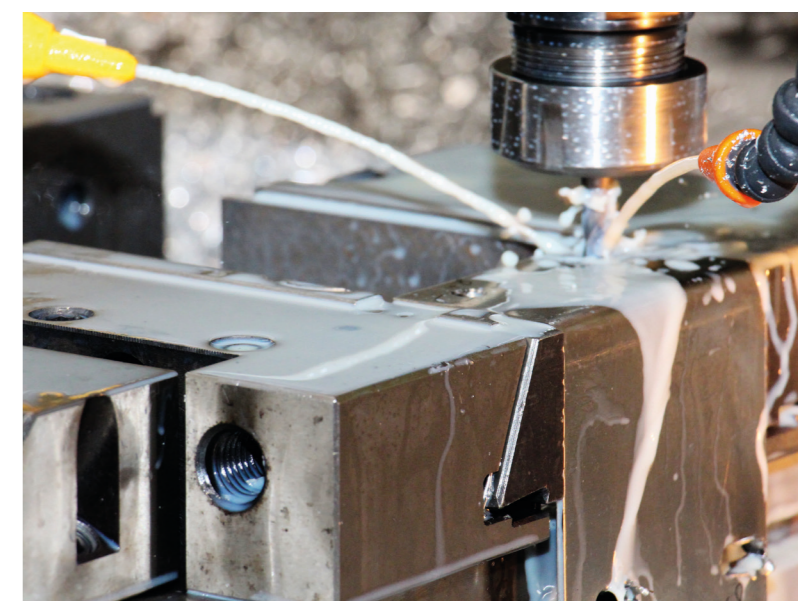
Our R&D department is continuously in search of innovative formulas for metal processing fluids to limit the impact on the environment to the extent possible. We have therefore developed a new range of boron-free oils to be able to offer a sustainable product portfolio. We can now offer a boron-free alternative emulsion for just about any metal-working process.

Safecut AERO 400 is a boron-free, semi-synthetic micro-emulsion that is suitable for turning, sawing, milling and drilling stainless steel and aluminium. Although this soluble oil was specially developed for the aviation industry, the product can also be used for all difficult processes with these metals. And especially for processes where the surface finish is important. With its highly specific properties and the high requirements made by the aviation industry of Unil Lubricants, this product complies with all specifications under AEROSPACE ASN 42.302. This is also why this metal processing oil has exceptionally good high pressure resistance.

Safecut M 150 NT is a boron-free, bio-stable micro-emulsion that forms a transparent micro-emulsion in water. It was designed for general processes and is suitable for both hard and medium-hard water. The successor to Safecut M 140 NT with its new additives and adapted formula offers even greater malleability with an even longer tool life and enhanced sustainability. This oil is a universal product. It is accordingly ideal for milling, turning and tapping parts for machines such as looms and agricultural machinery. The universality of Safecut M 150 NT is also demonstrated by the different materials that can be worked using this emulsion. It is suitable for all yellow metals, aluminium, steel and alloys, stainless steel and even titanium.

Finally, with Stargrind 80 NT the boron-free range also includes a fully synthetic grinding fluid suitable for the professional and heavy processing of steel and its alloys. This emulsion has an extra moisturising effect to ensure excellent cooling and protection of the grinding wheel.

(Take a look on pages 6 and 7 for a full summary of all our metalworking products.)



BORON-FREE ALTERNATIVES

Free of:

Suitable for:

	Boron	Secondary amines	Sulfur	Yellow metals	Aluminium	Steel and alloys	Cast iron	Stainless steel	Titanium
Fully synthetic coolants									
Topcut S 216 EP	x	✓	✓	x	x	✓	x	x	x
Semi-synthetic micro-emulsions									
Safecut AERO 400	✓	✓	✓	x	✓	✓	x	x	x
Safecut M 100	x	✓	✓	✓	x	✓	✓	x	x
Safecut M 185 NT	✓	✓	✓	✓	✓	✓	x	✓	+-
Safecut M 170 NT	x	✓	✓	✓	x	✓	✓	+-	x
Safecut M 150	x	✓	✓	✓	✓	✓	+-	✓	✓
Starcut M 16	x	x	✓	✓	x	✓	✓	x	x
Emulsions									
Safecut E 209 NT	x	x	✓	✓	✓	✓	x	✓	+-
Safecut E 103	x	✓	✓	✓	✓	✓	x	✓	x
Starcut E 25 EP	x	x	x	x	x	✓	x	✓	✓
Starcut E 20	x	x	✓	✓	✓	✓	x	x	x
Starcut E 9	x	x	x	✓	✓	✓	x	✓	+-
Fully synthetic grinding coolants									
Stargrind 50	x	✓	✓	x	x	✓	x	x	x
Stargrind 80 NT	✓	✓	✓	x	x	✓	x	x	x
Stargrind CO AM	x	✓	✓	x	x	✓	x	x	x

Application examples	Product description	Refractometer index	% to be used in water
<ul style="list-style-type: none"> CNC milling, turning and grinding. 	Highly stable, colourless synthetic coolant for all processes. Suitable for both soft and hard water. Contains extreme pressure additives.	1.35	3-6
<ul style="list-style-type: none"> Aluminium for aerospace applications (7175, 7075, 2024, etc.). 	Bio-stable product suitable for medium-hard water that forms an attractive transparent micro-emulsion. Suitable for sawing, turning, milling and drilling stainless steel and its alloys and Aerospace aluminium (7175, 7075, 2024, etc.). Very high corrosion-resistance and cooling and lubricating properties.	2	4-8
<ul style="list-style-type: none"> CNC milling and turning cast-iron. 	Bio-stable, semi-synthetic micro-emulsion for general processes with both soft and medium-hard water. Contains latest-generation malleability additives.	1.9	5-8
<ul style="list-style-type: none"> CNC milling, turning and tapping for cogs. 	Highly malleable micro-emulsion for all processes with the exception of cast iron. Good cooling and corrosion-resistant properties.	1.1	5-10
<ul style="list-style-type: none"> CNC milling and turning different kinds of steel. Good, for example, for cast-iron wheel rims for fork-lift trucks. 	Bio-stable, semi-synthetic micro-emulsion for general processes with both soft and medium-hard water. Contains latest-generation malleability additives.	1.9	5-7
<ul style="list-style-type: none"> CNC milling, turning and tapping of parts for looms and agricultural machines. 	Bio-stable, semi-synthetic micro-emulsion for general processes with both hard water and medium-hard water. Contains latest-generation malleability additives.	1.1	5-10
<ul style="list-style-type: none"> CNC turning and milling cast iron such as parts for water pumps. 	Extremely bio-stable, micro-emulsion for general processes with semi-soft to hard water.	1.7	5-7
<ul style="list-style-type: none"> CNC milling, turning and tapping heavy duty Fe and ALU applications. 	Bio-stable emulsion for general processes suitable for any water hardness. Formulated in line with the latest anti-foam technologies.	0.8	5-10
<ul style="list-style-type: none"> Profiling cable ducts and roof profiles. 	Bio-stable emulsion for general processes suitable for water with normal hardness. High level of mineral oil.	0.9	5-10
<ul style="list-style-type: none"> CNC longitudinal turning, milling Fe and stainless steel. Shaping stainless steel. 	Emulsion for very heavy-duty general processes suitable for water with any hardness. High level of mineral oil and extreme pressure additives.	0.9	5-15
<ul style="list-style-type: none"> CNC longitudinal turning, machining, tapping Fe. 	Bio-stable emulsion for general processes suitable for any water hardness. High level of mineral oil.	1.2	5-10
<ul style="list-style-type: none"> CNC milling, turning and tapping heavy duty Fe and ALU applications. 	Emulsion for heavy-duty general processes suitable for water with any hardness. High level of mineral oil and extreme pressure additives.	0.9	5-15
<ul style="list-style-type: none"> General grinding medium for flat and cylindrical grinding. 	Transparent grinding fluid with good moistening properties and perfect anti-corrosion properties.	1.25	3-4
<ul style="list-style-type: none"> Grinding medium for professional and heavy duty applications. Flat, round and centreless grinding. 	Synthetic grinding fluid without boron, good anti-foam, anti-mist and moistening properties for cooling and protecting the grinding wheel.	2.2	3-5
<ul style="list-style-type: none"> Tool grinding (milling for the wood industry/metal tooling). 	Transparent grinding fluid with good moistening properties and perfect anti-corrosion properties.	1.5	4-5

RECYCLED WATER

METAL PROCESSING WITH SOFT WATER

The authorities are increasingly urging businesses to collect rainwater and re-use it for sanitary facilities, maintenance work, as a buffer, etc. Surplus buffer water can, however, also offer economically attractive options. We have accordingly succeeded in developing a new metal processing fluid that mixes perfectly with rainwater without extra foaming. Safecut 209 NT SX ensures less wastage so is also good for the environment.

In 2013 the Flemish authorities introduced a regulation that made the collection of rainwater compulsory for new builds by both private individuals and companies (depending on the surface area of the new construction). The regulation also includes the obligation to install a soakaway to separate rainwater and sewerage. Also included are the minimum dimensioning criteria to be met by soakaways and infiltration

and buffer provisions. Provincial and local planning regulations can also make additional requirements on top of regional regulations. Furthermore, the fire services at many local authorities are advising collecting buffer water that can be used in an emergency.

For ecological and economic reasons, many metalworking companies would also like to use their surplus buffer water for mixing metalworking emulsions. Rainwater is, however, very soft water (0 to 1° German hardness), while ordinary drinking water has 8 to 20° German hardness. During the manufacture of emulsion with rainwater, problems invariably occurred with excessive foaming. However, Unil Lubricants has succeeded in developing a new metalworking emulsion that is perfect for use by mixing with rainwater. The brand-new product Safecut E209NT SX has been provided with a unique

mix of anti-foam additives. So this product guarantees perfect metal processing with any water hardness. This emulsion is suitable for processing all metals with the exception of cast iron.



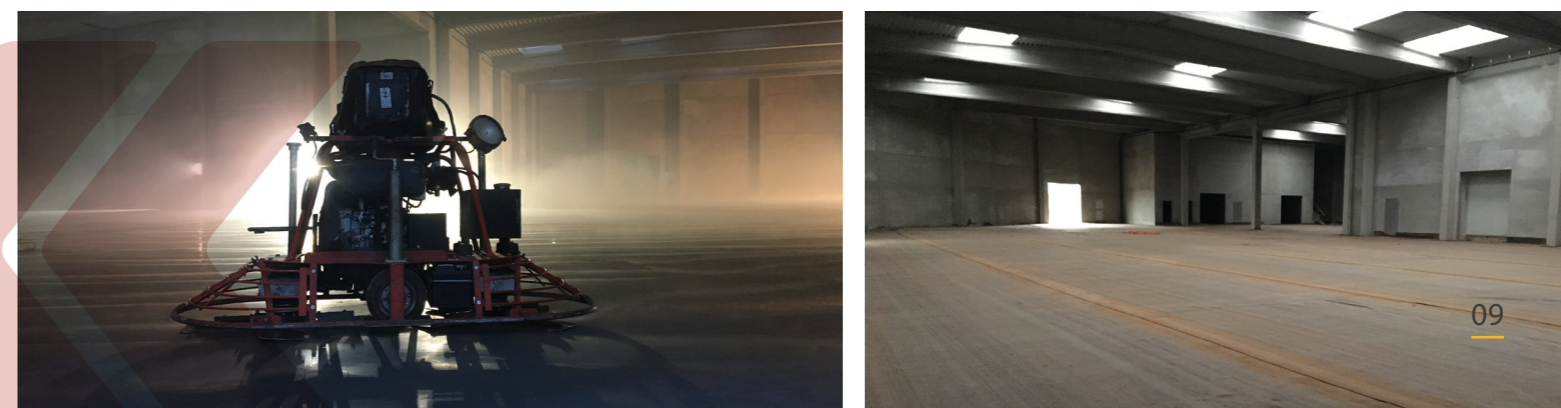
EXTENSION WORK

UNIL LUBRICANTS EXTENSION WORK

Phase 1 of the extension work that started in June 2016 is fast approaching the finishing post. Although this is only part of larger works, the first building can shortly be brought into use so our production and storage areas will immediately double in size. You can see some photos of the new construction below. You can follow the extension work on www.unil.com with regular photo and video updates.



Go to www.unil.com to find out more about our extension work.



MAINTENANCE OF METALWORKING MACHINES



TIPS FOR AN EMULSION IN PRIME CONDITION

It is important to regularly check the condition of the liquid to guarantee optimal operation of your emulsion bath. So we would like to offer a number of tips to make sure that your emulsion bath always stays in prime condition!

Always the right concentration

It is important that the concentration of the oil remains at a constant level for the perfect working of a water-soluble emulsion. When manually mixing an emulsion there is always the danger of incomplete mixing or a mistake in obtaining the right concentration. With the

Supermix, a self-priming volumetric metering pump, the mixing ratios can be simply set from 1 to 10%. The pump is connected to the water mains, has a suction side for the metered concentrate, and supplies a mixture of the set concentration at the outlet.

To measure is to know

You can use a refractometer to check the current concentration of emulsions or solutions. When you apply a drop of the emulsion on the glass plate you can check the solution's Brix value. This value must be multiplied by the refractometer index

of the oil to check the exact concentration. You can find the product's refractometer index in our brochures (or on page 6 and 7).

Remove excess oil

Oil often floats up in the emulsion bath when using slideway oil. This can cause bacteria formation that disturbs the balance of the emulsion. It is important to remove the leak-off oil to prevent this contamination. An oil skimmer can be used for this.

Check the acidity

If you suspect that your emulsion has suffered from bacteria formation you can check this using the pH gauge. Normal acidity lies between 9 and 9.5 pH. The pH can fall if the concentration of emulsion falls. A too high pH can result in skin irritation. Unil has also a decontamination fluid in its range for use when the liquid in the bath has to be replaced.

IN BRIEF

- Using a volumetric metering pump means you are always certain you have the right concentration.
- Use a refractometer once a week to check the concentration of the emulsion.
- Immediately remove excess leak-off oil from the emulsion bath with the oil skimmer to prevent bacteria formation.
- Use the pH meter once a month or if in any doubt to check the acidity of the emulsion bath.
- Always use a disinfectant to keep the bath free of bacteria and/or fungi.

Unil Lubricants offers a whole range of maintenance products. Contact us on info@unil.com or tel. 0032 2 365 02 00

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In line with tradition Unil Lubricants will be attending the MTMS fair in palais 5 at Brussels Expo. You can come and pay us a visit from 22 to 24 March. We look forward to meeting you on stand B42.

Wednesday 22/03/2017: 11.00 – 20.00 hours

Thursday 23/03/2017: 11.00 – 22.00 hours (after hours & VIP evening)

Friday 24/03/2017: 11.00 – 17.00 hours

You can register for free admission tickets using the link on our website (www.unil.com).



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