

HYCUT

The lubricant concept  
for metalworking





## Taking a holistic view of cooling lubrication

Does this sound familiar to you? Each processing step requires a specific product, tramp oil contaminates the freshly prepared emulsion and washing has to be carried out between processing steps. Consequently costs for disposal continue to increase. But there is another way.

For use in your application, we have developed and established the multi-functional products of the HYCUT series. The core of the HYCUT system are oils on an ester basis, which can be used as a machining oil, cooling lubricant or cleaner and are compatible with each other. For example, they can eliminate intermediate washing.

25 years of experience and worldwide usage at major automotive manufacturers have proven that these products deliver maximum performance and support cost saving.



The USDA BioPreferred® product-specific label is granted by the United States Department of Agriculture. Many products of the HYCUT series, in this case HYCUT CF 21, are USDA certified biobased products.



### At a glance:

- ✓ Products based on renewable resources, mineral oil-free (designated by the USDA BioPreferred® program)
- ✓ Multi-functional use as machining oil, hydraulic oil, two-component metalworking fluid and cleaner
- ✓ Significant cost reduction from process optimization
- ✓ Tailor-made solutions
- ✓ High human and environmental compatibility
- ✓ First class service with individual on-site consulting



### What are synthetic ester oils?

In the production of synthetic ester oils, the fatty acid, which is chemically generated from natural oil, is specifically reacted with the fatty alcohol also obtained from natural or synthetic sources. In this way, the chemical constitution and the degree of purity are precisely controllable. Synthetic ester oils, like natural plant oils, are mineral oil-free and biodegradable, but in most cases much more durable and powerful.

## HYCUT in neat oil applications

All neat cutting and grinding oils of the HYCUT product series are based on synthetic ester oils. They offer an extremely high lubricating performance and thus, can considerably reduce tool wear. Due to the use of synthetic, saturated ester oils the products show a high aging stability. This ensures a long service life.

The high washing performance of the synthetic oils also provides for clean machines and parts. The exceedingly good swarf removal of HYCUT particularly improves the efficiency of grinding operations.

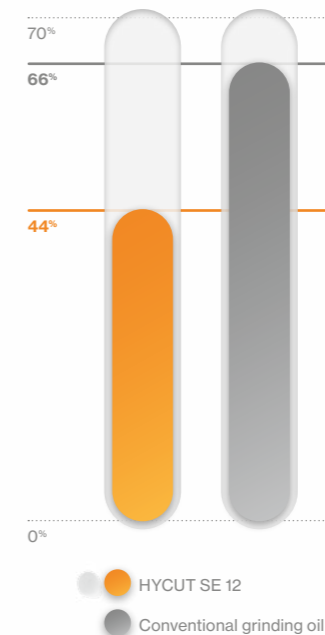
# 30%

## LOWER

HYCUT SE 12 = 44%  
Conventional grinding oil = 66%

### Comparison of evaporation loss

HYCUT SE 12 has a 30 % lower evaporation loss compared to a conventional mineral oil-containing grinding oil of the same viscosity (according to Noack at 150° C).



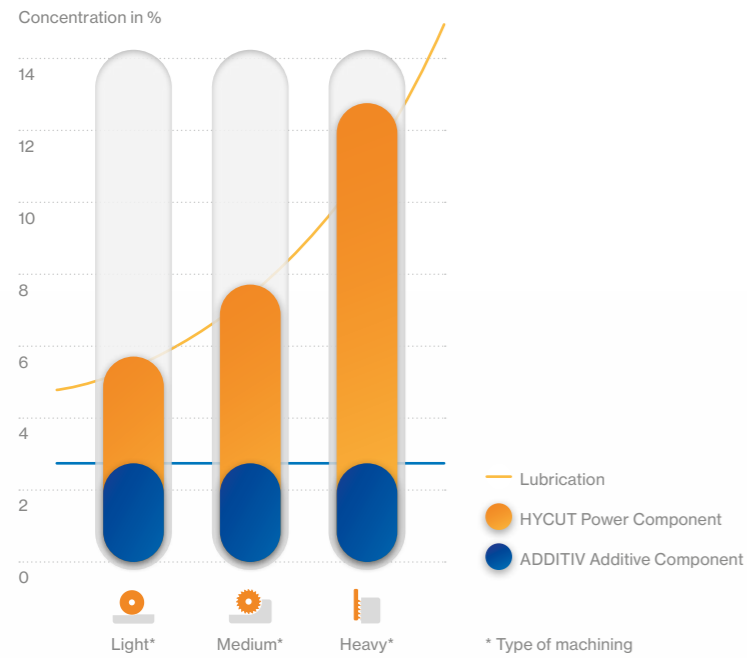
### At a glance:

- ✓ Easy washing with aqueous media and ideally, complete elimination of washing
- ✓ Low-odour and low evaporation loss, giving improved working conditions
- ✓ Increased working safety due to higher flash points compared to mineral oil products
- ✓ Proven process reliability with approvals by well-known machine manufacturers



### Very high human and environmental compatibility

Ester oil based cutting fluids are in general more human and environmentally compatible than mineral oil based products. The latter are e.g. classified as aspiration hazardous at low viscosities. In addition, ester oils are more easily biodegradable than mineral oils.



### No chance for tramp oil!

Water-miscible cooling lubricants contain emulsifiers dispensing the base oil in fine oil drops (emulsifying).

Due to the fact that HYCUT contains emulsifiers optimised on ester oils, mineral tramp oils are not emulsified into the cooling lubricant. The tramp oil is separated at the surface and thus, can easily be removed, for example, by means of a suitable oil skimmer.



### At a glance:

- ✓ Low consumption due to extremely good run-off
- ✓ High level of tramp oil separation ensures easy maintenance of the emulsion
- ✓ Stable processes due to non-foaming, even in soft water
- ✓ Clean parts, tools and machines thanks to excellent flushing performance
- ✓ Very good skin compatibility as the additive content remains constant independently from the oil concentration

## HYCUT two-component metalworking fluid

The special feature of HYCUT as an emulsion is the possibility to control oil and additives separately. This offers a perfect adaptation to different processes, material and lubricating performance requirements. During the complete service life of the emulsion, the single components can be added in specific doses.

Customers such as Audi, BMW and Volkswagen rely on the HYCUT system, which fulfils the particular demands regarding efficiency and process reliability. Due to the broad range of application and flexibility of HYCUT, entire production areas can be supplied with only one cooling lubricant system.

## Fluid Management – Individual service included

Special requirements demand an individual service. For this reason, our technical consultants come to your premises, analyse the situation directly from your production and provide a tailor-made solution meeting your production requirements exactly. We combine the suitable products from the HYCUT series for you and thus, giving you the opportunity to capitalize on existing potential and benefit from all the advantages of our modern products.

As our customer, you will receive comprehensive support from our application engineers. This is part of our standard service as well as regular advice on the continuous improvement process. Furthermore, Oemeta has its own analytical laboratory. Cooling lubricant samples from your production can be analysed by means of state-of-the-art equipment. The results, including recommendations for action will be provided to you in the form of a detailed report.

On demand, we will provide a complete customised concept regarding your fluid management.



### On-site analysis made easy

The German Technical Regulation for Hazardous Substances TRGS 611 defines the use of water-miscible cooling lubricants. This includes regular monitoring of the emulsion.

For a quick on-site analysis, there are test strips available especially designed for the HYCUT product series as well as a coolant test kit, facilitating the TRGS measurement.

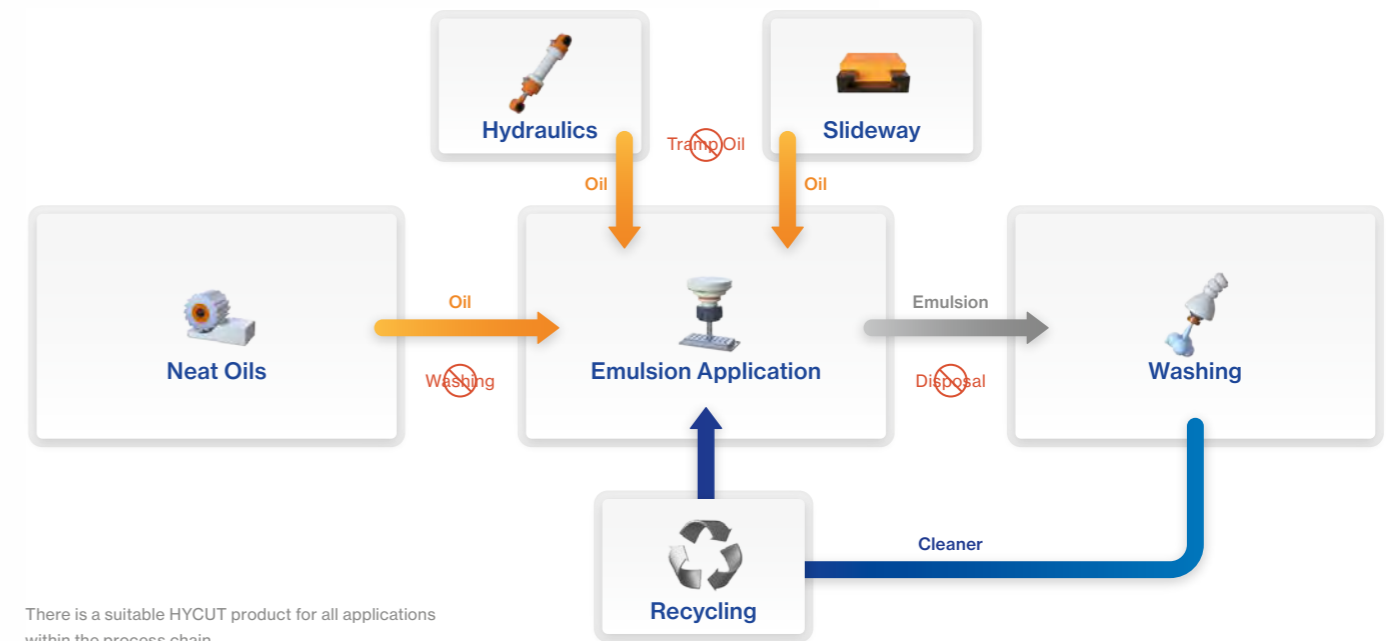
## HYCUT for the entire process chain

The really clever bit: Parts first machined with a HYCUT oil can be followed up without intermediate washing using a HYCUT emulsion. Oil contamination, for example from the slideway, improves the lubrication performance instead of deteriorating the emulsion. If intermediate washing is required, the HYCUT cleaner is simply recycled into the emulsion. This is how efficiently you could be working in the future using HYCUT.



### At a glance:

- ✓ All products compatible with each other
- ✓ No performance loss due to tramp oil contamination
- ✓ Improved service life (can be several years)
- ✓ Suitable for central installations and larger single machines
- ✓ Elimination of washing processes
- ✓ Recycling of cleaner into emulsion
- ✓ Reduction of waste disposal and energy costs



This allows you to work **more economically** in the future due to the application of HYCUT.

# Oemeta

The Coolant People

The technical specifications are not legally binding.

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