



DAPHNE ALPHACOOOL CS

~Improving Manufacturing Conditions: Less Mist, Less Smell, Less Sludge~

The speed and efficiency of machining tools have been steadily advancing every year, increasing the need for more high performance coolants. The required performance of an efficient and high-speed coolant can be summarized as follows:

1. No foaming even at high pressure injections.
2. No dispersion or vaporization even at high machining temperatures
3. High versatility; can be used with both ferrous and nonferrous materials.

Daphne Alphacool CS is a next generation ultra-versatile emulsion that meets all the above requirements.

1. Application

This oil can be used as a general-purpose cutting oil for aluminium alloys, carbon steel, alloy steel, and copper by dissolving in water. Specifically, this product can be used for turning, drilling, and end milling. In addition, this product does not contain chlorine nor boron, making it environmentally friendly as well as worker-friendly.

2. Essence

Idemitsu's proprietary emulsion technology uses special surfactants to heighten emulsion stability, along with additives with high antibacterial property to improve resistance to rot to considerably extend the coolant's service life. Since it suppresses the fume occurrence and has high re-emulsifiability, this product also produces less sludge around the machinery, thereby improving the working environment. In addition, workability and lubricity are also improved while still being versatile; the product can be used to process both ferrous and nonferrous materials. Daphne Alphacool CS is an emulsion type water soluble cutting oil that combines workability and safe work environment, surpassing other conventional products.

3. Characteristics

1. The unique base materials forms a thick and dense lubricating film on the processed surface, leading to high lubricity and excellent workability, while also extending the tool life and improving the accuracy of the finished testpiece.
2. By using Idemitsu's unique heat resistant technology, we strengthen the interaction between surfactant particles, creating a thermally stable and non-volatile coolant, which suppresses the occurrence of mist and fume.
3. It has an anti-foaming performance that exceeds conventional emulsion oils, thereby preventing overflow of coolants.
4. With good anti-bacterial performance, the service life of coolants can be prolonged, also reducing waste.
5. By adopting materials that are resistant to degradation, this coolant possesses excellent cleaning ability and prevents stains around the machinery.
6. By adopting unique surfactants, it is difficult for emulsion break to occur. Even when the

machinery is paused for extended periods of time, phase separation will not occur, thereby preventing the breakage of tools during machine startup.

7. Since the pH value can be maintained across varying concentrations, rusting of work materials and machine tools can be suppressed.
8. Due to its exceptional self-emulsifying property, it can easily be emulsified even in tanks with less stirring power regardless of water temperature or hardness.
9. This product does not contain chlorine and boron.

4. Attention

For emulsification adjustment, please recharge Daphne Alphacool CS stock solution to water. The usable dilution ratio is 10X(10%) to 50X(2%). Please pay attention to not exceed this range.

5. Handling Precautions

1. Depending on a person's constitution, skin irritation may occur. In that case, wash well with soap and use protective cream and gloves .
2. Please strive to prevent accidental ingestion of product.

6. Packing

200 L drum can

DAPHNE ALPHACOOOL CS Typical Specifications

Test Item		CS Stock Solution	CS(10%)	CS(5%)
Density	@15°C (g/cm)	0.9110	-	-
Colour	ASTM D1500	L0.5	-	-
Flash Point	@C.O.C(°C)	None (non-dangerous goods)	-	-
pH		-	9.19	9.16
Foaming	Cylinder Shaking Method	-	7-0	6-0
Anti-rust (DIN test))	@Room Temperature*2h	-	0(Pass)	0(Pass)

- For handling of this product, please read the Material Safety Data Sheet (MSDS) or the instructions printed on the label carefully before using.
- SDS are available upon request through your sales contract office or via the internet at <http://www.idemitsu.co.jp/lube/>
- The values indicated are measured values based on our test methods and do not guarantee accuracy or perfection. Due to continual product research and development, the information may be changed without preliminary announcements.

Idemitsu Kosan Co., Ltd. Lubricants Department 2. Tel: +81 33213 3146, Fax : +81 33211 5343