

ECOCOOL GLOBAL 1000

Water-miscible metalworking fluid for highest requirements in machining

Description

ECOCOOL GLOBAL 1000 is a high-quality boron-free water-miscible coolant with special characteristics for high-performance metalworking, especially in aerospace, medical technology, semiconductor technology and many other industrial applications. Based on the patented FUCHS technology ECOCOOL GLOBAL 1000 offers advantages in the application, monitoring and maintenance of the emulsion, in purchasing, environment, health and safety, as well as in quality assurance.

ECOCOOL GLOBAL 1000 helps maximize operational productivity and improves the work environment while providing costs savings. ECOCOOL GLOBAL 1000 contains a novel lubricity package that makes it particularly effective for machining aluminium, titanium, Inconel and stainless steel. Studies on milling titanium show drastic improvements in tool life and metal removal rates. ECOCOOL GLOBAL 1000 has been tested and approved by various machine manufacturers, including DMG MORI, in accordance with standard 3.9. Details of the approvals can be obtained from our application engineering department.

Advantages

- Free of Formaldehyde, Boron, MEA und Silicon
- Low odour
- Good high-pressure stability
- High emulsion stability due to stable pH-value
- Water Hazard Class 1
- Good foaming behaviour in every water hardness
- No discolouration on aluminium
- Outstanding corrosion protection
- Strong cooling effect due to improved heat removal
- Excellent wetting, cooling and flushing properties
- Prolonged lifetime – low consumption
- High surface quality
- High metal removal rate and increased tool life, especially for titanium and nickel-based alloys
- Designed to meet the specifications of major aerospace OEMs
- Meets the Chemical Registry requirements of the top 19 industrialized economies and most major manufacturing companies' restricted chemicals lists

Product Information

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Approvals

- Approval for AEROSPACE:
- AIRBUS AIPS 00-00-010
- SAFRAN PR6300
- Rolls Royce CSS 129/131 Cat. 2
- Conforms to Boeing BAC 5008 Section 5-6
- LOCKHEED MARTIN
- Approval for MEDICAL:
- Cytotoxicity: EN ISO 10993-1, EN ISO 10993-5, EN ISO 10993-12
- Semiconductor approval: Qualified acc. ASML GRADE 2 specification

Application

ECOCOOL GLOBAL 1000 is a multifunctional high-performance product for drilling, turning, milling, threading and grinding of titanium and nickel-based alloys as well as aluminium, stainless steel and steel. These diverse application capabilities and the robust design predestine ECOCOOL GLOBAL 1000 for the fulfilment of high-performance tasks in metalworking. The use of special components also enables the machining of critical aluminium alloys. ECOCOOL GLOBAL 1000 was not designed for long-time use in cast iron machining. Before use, it is recommended to study the product information and the safety data sheet to ensure correct handling and to comply with health regulations.

Storage Conditions

Minimum shelf life of emulsifiable metalworking fluid concentrates: 6 months from day of delivery. Prerequisites are the correct storage in unopened, original containers, protection from direct sunlight and rain. The storage temperature should not fall below +5°C or exceed above +40°C. Extensive practical experiences have shown that the characteristics of our products do not deteriorate even if the above-mentioned storage periods are exceeded. We will be pleased to check the product in our FUCHS laboratory for further usability after the minimum storage period has been exceeded.

Product Information

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TYPICAL CHARACTERISTICS

Density at 15°C	DIN 51757	0.99 g/ml
Kinematic Viscosity at 40°C	ASTM D 7042	65 mm²/s
Appearance		Light Amber
pH value 10% in DI-Water	DIN 51369	9.4
Chip Filter Test ≥ 5% in DIN-Water 20°dH	DIN 51360-2	Degree of corrosion 0 - 0
Handheld refractometer factor	FLV-T-05	1.3

The above data is typical of normal production and must not be taken as a specification. FLV = FUCHS laboratory test procedure

How to clean

Residual films can be readily removed from parts with Renoclean® alkaline cleaners. Your local FUCHS representative can provide you specific recommendations for your operation.

Directions for use

Application concentration: To ensure optimum corrosion protection and a long service life of the emulsion, we recommend a minimum concentration of 8%.

Product Information

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Start concentration

To ensure the optimum corrosion protection and service life of the emulsion, we recommend a minimum concentration of 8%.

Application concentration

The optimal application concentration should be between 8% and 12% and can be adapted to the material and processing method.

Titan- and Nickel-based alloys: 8 – 10%

Stainless Steel and Cr-Steel: 8 – 9%

Steel- and Aluminum-alloys: 8 – 9%

Mixing temperatures

Information of handling: The optimum mixing temperature for water and concentrate is 15 - 20°C.

Colour change

Slight colour changes and minor sedimentation in the metalworking fluid concentrate have no influence on the performance and quality of the product.

Guidelines

For the application, please consider the valid VDI guidelines 3035, 3397 sheets 1-3 and DGUV 109-003 "Tätigkeiten mit Kühlschmierstoffen".

Advise Application Engineers

The FUCHS Application Engineers will be pleased to provide further assistance.

Product Information

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Oplysningerne i denne produktbeskrivelse er baseret på den erfaring og know-how FUCHS besidder i udvikling og fremstilling af smøremidler og repræsenterer den nuværende state-of-the-art. Vore produkters præstationer kan være påvirket af en række faktorer, især anvendelsen, anvendelsesmetoden, det operationelle miljø, komponenters fysiske tilstand, mulig ekstern forurening osv. Begrundet i disse forhold er universelt gyldige udsagn om vore produkters funktion ikke mulige. Oplysningerne i denne produktbeskrivelse repræsenterer generelle, ikke-bindende retningslinjer. Produktbeskrivelsen giver ingen garanti, hverken direkte udtrykt eller underforstået, for produktets egenskaber eller egnethed til en given applikation. Vi anbefaler derfor, at du konsulterer en FUCHS applikationsingeniør, for at diskutere anvendelsesområder og krav til produktets ydeevne, før produktet anvendes. Det er brugerens ansvar at teste den funktionelle egnethed af produktet og bruge det med den tilsvarende omhu. Vore produkter gennemgår løbende forbedringer. Vi forbeholder os derfor ret til, til enhver tid og uden varsel, at ændre vort produktprogram, selve produkterne og deres fremstillingsmetoder samt alle oplysninger om vore produkter, medmindre andet er fastsat i kundespecifikke aftaler. Med offentliggørelsen af denne produktbeskrivelse, ophører alle tidligere udgavers gyldighed. Enhver form for gengivelse, hel eller delvis, kræver forudgående skriftlig tilladelse fra FUCHS LUBRICANTS DENMARK ApS. © FUCHS LUBRICANTS DENMARK ApS. Alle rettigheder forbeholdes.