



Application

Cimtech A31 is a new type of synthetic fluid for heavy duty grinding and machining operations, including milling and high speed machining. It is designed primarily for demanding operations in hard and difficult alloys where it has proven to create substantial productivity improvements. Cimtech A31 can be used in individual machines as well as in central systems.

Cimtech A31 can only be used with demineralised water. If this is not available, the use of Cimtech A31F should be considered. However, more care should be taken when Cimtech A31F is used on aluminium.

Features and benefits

Cimtech A31 is designed primarily to improve productivity in demanding grinding and machining operations in hard and difficult alloys such as stainless steel, titanium, nickel and other aerospace alloys. For use with other metals and processes please consult the compatibility guide on page two, or contact your local Cimcool representative.

Cimtech A31 is highly cost effective, due to its low make-up rates and long fluid life. Cimtech A31 provides excellent lubrication and cooling, and does not foam when used at recommended concentration. The complete transparency of the mix enables good visibility in the cutting zone, and it has a magnificent washing action and superior cleanliness. In addition, Cimtech A31 rejects tramp oil and is low misting. The ingredients in Cimtech A31 provide no nourishment for bacteria ensuring exceptional long fluid life. Operators, otherwise sensitive to traditional fluids, generally appreciate the low pH (7.7), complete transparency and neutral smelling properties of Cimtech A31. Cimtech A31 does not contain sulphur, chlorine, formaldehyde, diethanolamine or boron.

Cimtech A31 has been dermatologically tested on human volunteers and was certified by an renowned research institute. The certification states that the use of Cimtech A31 will not result in skin irritation. A copy of the certificate is available at your local Cimcool representative.

Additives should only be used after consulting a Cimcool representative.

Physical and chemical properties

Appearance:	Yellow liquid
Odour:	Mild
Density:	1,075
pH (concentrate):	8,2
pH (operating):	7,7

Recommended starting concentration

Milling, drilling, turning, reaming and grinding	5 - 8%
Wrought and cast aluminium alloys, carbon and stainless steel, titanium and exotic alloy	5 - 8%

Use of lower concentrations than recommended above may cause foaming, corrosion and/or rancidity.

Metal and water compatibility					
Type of metal	Copper and Copper alloys such as brass and bronze	Aluminium	Cast iron	Steel, carbon- & stainless steel	Titanium and other 'hard' alloys
Compatibility	Compatible only for occasional application, but beware of risk of staining of parts, residue formation in machines and/or discoloration of mix. Regular addition of Inhibitor EC can reduce, but not eliminate this risk.	Excellent with hard Al (typically wrought and cast Al). In soft Al beware of chip build up on tools in high-speed threading, tapping and deep hole drilling operations compared to oil based fluids. For use with very special grades of Al a staining test is recommended before using the product.	Compatible, but beware of increased risk of corrosion - in particular chip corrosion - compared to conventional oil based fluids. The corrosion protection can be increased by regular addition of Cimplus T4009.	Excellent	Excellent
Water compatibility	Can only be used with demineralised water. Not doing so will in time, cause lime deposits and/or corrosion. It is recommended to check and keep the chloride concentration in the mix below 150 ppm to ensure satisfactory ferrous corrosion control.				
Remarks	Being free of mineral oil Cimtech A31 may have a tendency of leaving a more sticky residue than traditional oil based fluids, in particular on open machines. However, regular spraying with a 1% solution of Cimclean 51 followed by wiping with a cloth (prevent fluid contamination) will easily remove such residue. Beware of residue when using measuring instruments and clean moving parts frequently. Applying a thin coat of Cimguard 20 may prevent such problems, and will not interfere with instrument measuring accuracy.				

The above are general guidelines for single use on the above metals only. For suitability on materials not mentioned, or suitability for mixed machining of various metals with the same fluid in the same machine/system, contact your local Cimcool representative.

Mix Master S

Concentration** can easily be obtained by setting the regulator to the correct number. ** The concentration may vary depending on local conditions. It is therefore always advised to check using the refractometer or TA Kit.

Concentration analysis

For concentration analysis, use one of the below given methods or an appropriate laboratory procedure available from your local stockist.

Refractometer factor:	1.8
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If the refractometer is used, the resultant reading multiplied by a factor of 1.8 will only be relevant when applied to a fresh mix.

Cimcool TA kit	Use 2 ml. mix										*: next syringe
%	1	2	3	4	5	6	7	8	9	10	
Reading	0.89	0.79	0.69	0.59	0.49	0.39	0.29	0.19	0.09	*.99	

Handling and storage

Protect from freezing, direct sun and store between 5 - 35°C.

Packaging type

5, 25, 200, 1000 litre and bulk.

Safety Data Sheet

The Safety Data Sheet should be consulted for specific information and information on Health, Safety and Environment when handling this product.



Cimcool Industrial Products
 Schiedamsedijk 20
 3134 KK Vlaardingen
 The Netherlands
 Tel: (0)10-4600660
 cimcool.eu@duboischemicals.com
 www.cimcool.com

