SWISSCOOL 3000

Water-miscible metal working fluid

Description

SWISSCOOL 3000 is a universal water-miscible, mineral oil containing metal working fluid. The product is low-foaming and is ideally suited for processing steel and cast alloys, but can also be used with common aluminium alloys.

Characteristics

1. Free from boron and formaldehyde
   - ➔ mild formulation
   - ➔ good human and skin compatibility
2. Good rinsing properties
   - ➔ clean machines
3. Outstanding corrosion protection
   - ➔ protects machines and components
4. Excellent biostability
   - ➔ the selected formulation prevents uncontrolled biological growth, resulting in a long emulsion service life
5. Complies with current legislation
   - ➔ meets the requirements of TRGS 611

Field of application

The product is suitable for all common machining processes (turning, milling, drilling, grinding) of steel, cast iron, aluminium and non-ferrous metals. In case of known material incompatibili-ties of critical aluminium qualities we recommend a compatibility test. Can also be used on non-ferrous metal. When machining exclusively copper or brass, we recommend adding a non-ferrous metal inhibitor.

Working concentration

General machining	6 – 8%
Grinding	6%

Shelf life/storage conditions

12 months in a closed container at temperatures between 5 °C and 40 °C.

Typical technical parameters

Characteristics	Unit	Test according to	Values
Colour concentrate		DIN ISO 2049	light yellow
Density at 20 °C	g/ml	ASTM D 4052	0.991
Viscosity at 40 °C	mm²/s	DIN 51562-1	25
Mineral oil content	%	DIN 51561-1	13
pH (fresh emulsion) at 5% concentration.		DIN 51369	~9.0
Corrosion test using GG25 chips	>6 %	DIN 51360-2	0 - 0
Factor for hand-held refractometers	% Brix		*2.0

*Example: value on refractometer 3.0 => effective concentration 6.0%

Water hazard class: WGK1

Waste code: VeVA / EWC 120109

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SWISSLINE

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SERVICE PLAN: SWISSCOOL 3000

To achieve the best results, observe the following recommendations.

Machine cleaning

Prior to a new fill, the machine must be cleaned with a system cleaner and then completely emptied.

Mixing

We recommend using a mixing unit such as MOTOREX FM 900 or FM 800
This ensures a finely dispersed and stable mixed emulsion.
Manual preparation: First fill water in a container and then add the concentrate by continuously stirring.

Required water hardness

This is a low-foam product.
Ideal application water hardness: >5°dH / >8.9°fH / >89 ppm
If there is foam build-up, check to make sure no air is being sucked in and that the system is otherwise operating properly.

Working concentration

The concentration depends on the material to be processed and the machining operation.
Working concentration: see front side
Concentration top-up rate: A minimum concentration of 0.5% must be maintained. The maximum possible top-up rate is recommended, i.e. the quantity between the minimum and maximum filling level.

pH-value

pH range: see front side.

Monitoring

The concentration, the pH value and other country-specific measurements (e.g. nitrite) as set in TRGS 611 are to be checked on a regular basis or at least once a week.

Maintenance

General notes: SWISSCOOL 3000 emulsions are maintained by adding the maximum possible top-up volume, i.e. lower the coolant level in the tank to the minimum and fill up with fresh emulsion to the maximum all at once.
pH-value: A low pH value can be increased and stabilized by a temporary increase of the working concentration of 2 % or through a partial refilling. An immediate rise in the pH value can be achieved by adding a pH stabilizer.
Germs & fungi: Adding of bactericides or fungicides only after consultation with our MOTOREX Customer Service.
Foam: In case of foam, we recommend the use of ANTIFOAM WATER.
Contamination: Remove tramp oil and other substances from the surface of the emulsion on a regular basis.
Periodically remove sludge from the coolant tank.
General aspects: For support and service, contact the MOTOREX partner near your location or get in touch with the MOTOREX Customer Service in CH-4901 Langenthal,
e-mail motorex@motorex.com / telephone +41 (0)62 919 74 74.

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