



# COOL CONCENTRATE

Coolant concentrate for spindle cooling systems

## Description

COOL CONCENTRATE is a fully synthetic, water-soluble coolant concentrate. Its ingredients passivate the various materials and provide long-term protection against corrosion. When mixed with water, COOL CONCENTRATE is a very efficient coolant with a specific heat of 4.1 J/g-K, which is virtually the same value as for water (4.187 J/g-K).

## Advantages

- very efficient heat removal
- prevents electrochemical corrosion
- effective in protecting aluminium, non-ferrous and ferrous metals from corrosion
- zinc-plated parts are not affected
- low maintenance
- compatibility with plastics typically used in machine construction and with sealing materials has been tested and confirmed

## Maintenance

Diluted COOL-CONCENTRATE must be checked periodically in accordance with the spindle or machine manufacturer specifications (see maintenance instruction on page 2).

If COOL-CONCENTRATE is to be used in a system that was previously filled with a product from another manufacturer, the cooling system must first be treated with 3% CS-CLEANER for 48 hours of operation before the fluid is changed.

For this, please follow the spindle manufacturer's maintenance instructions.

## Application

When preparing COOL CONCENTRATE, use only drinking water which does not exceed the following limits:

- water hardness                      max. 20°dH
- chloride                                max. 100 ppm
- sulphate                                max. 100 ppm

**Prepare a mixture of 11% COOL CONCENTRATE.** Only use clean containers for preparing the mixture. Pour the mixture into the prepared cooling system immediately. If the given water properties are not met COOL-X must be used.

If the coolant is used under optimal operating conditions while proper maintenance has been performed according to the instructions the coolant's service life may be up to 1 years.

An average operating temperature of 20 - 25 °C is very effective in the long-term preservation of hydrolysis-sensitive elastomers (e.g. PUR-Ether).

## Storage

Store COOL CONCENTRATE in the original container at 5 - 35 °C. The maximum shelf life in the closed original container is 2 years.

## Typical technical parameters

Property	Unit	Tested according to	Value
Colour		DIN ISO 2049	fluorescent green
Density at 20 °C	g/ml	ASTM D 4052	1.095
pH value when mixed with water		DIN 51785	8.0 - 8.7
pH value of concentrate		DIN 51785	9.5
Pour point	°C	ASTM D 5950	-25
Concentration of the mixture when used	%		11
Refraction at 20 °C	% Brix <sup>1</sup>		*1.9

Water hazard class: WGK1

Disposal code: VeVA / EWC 120109

\*reading from handheld refractometer 5.8 => actual 11%



# Important information about the use of COOL CONCENTRATE

## 1. Initial commissioning of a cooling system

Before a cooling system is brought into operation first time, it must be cleaned prior to remove solids and germs. Neglecting this procedure may result in damage of components in the system or may spoil the coolant.

- Flush the circuit thoroughly for approx. 2 hours using a mixture of COOL-CONCENTRATE treated with 3% CS-CLEANER.
- Drain the circuit completely.
- Fill the coolant tank with COOL -CONCENTRATE following the instructions.

## 2. Use of the coolant

Prepare a mixture of 11% COOL CONCENTRATE. Attention! Observe the usage instructions on Page 1.

## 3. Maintenance / checks

COOL CONCENTRATE mixed with water is a low-maintenance coolant. We recommend checking the following points on a monthly basis.

- Aspect (appearance)
- Odour
- pH value
- Concentration (target: 11% / min. 11% / max.15%)

Adjusting concentration due to evaporation:

If the concentration exceeds the limit values it must be adjusted in steps by adding pure drinking water (acc. to specification) to meet the target concentration of 11%.

- water hardness	max. 20°dH (3.6mmol/l)
- chloride	max. 100 ppm
- sulphate	max. 100 ppm

## 4. Interval for changing coolant

Interval between changes:

Under optimal operating and environmental conditions, the coolant can remain in use for a maximum of 1 year.

Procedure when changing:

1. Add 3% CS-CLEANER to the "old" coolant. Continue working as normal for two to three days.
2. Afterwards, empty the system completely and clean it thoroughly.  
Warning: observe disposal guidelines
3. If the cooling system was heavily soiled, we recommend rinsing it with clean drinking water for 10 minutes before the new coolant is added.
4. Refill the system as indicated in Point 2 "Use of the coolant".

## 5. Transport

In general, COOL CONCENTRATE should not be exposed to temperatures below 0 °C. It freezes at a temperature of - 25 °C. If COOL CONCENTRATE is exposed to freezing conditions during transport and freezes, it can be thawed at temperatures of at least + 5 °C. When doing so, make certain that the liquid is completely thawed out. After thawing, shake the container well.

## 6. General information

COOL CONCENTRATE is also available as a ready-to-use product (COOL-X). With it, the largest sources of errors are eliminated thanks to the factory mixing with treated water. This results in the product having a constantly high quality and there is no mixing, no danger of unsuitable water or contaminated mixing containers. For reasons of safety, we recommend using COOL-X whenever possible. COOL-X is prepared with filtered, treated water.

The above information reflects the current state of the art. Measurement and production tolerances customary in the branch apply to the key data shown here. Our products undergo constant development. We therefore reserve the right to amend the data contained in this product information at any time without prior notice. MOTOREX AG accepts no guarantee whatsoever for contaminated circuits, mechanical defects or similar which are attributable to defective maintenance, failure to comply with directives, or the use of materials/substances that are not recommended. The general terms and conditions of sale and delivery (AVLB) of MOTOREX AG LANGENTHAL apply.

