

Castrol Alusol[®] B

Biostable Soluble Oil for Metalworking Applications

Description

Castrol Alusol[®] B is a biostable, soluble oil for metalworking applications. It is formulated on a highly refined mineral oil and to tailor **Castrol Alusol[®] B** for aluminium machining, we have blended in special fatty and synthetic lubricity and antiweld additives. It forms a semi-translucent emulsion in both hard and soft waters.

Application

Castrol Alusol[®] B has been developed specifically for the machining of aluminium and aluminium alloys. It is suitable for all machining operations including grinding.

Castrol Alusol[®] B is particularly successful in the more arduous machining tasks of reaming, tapping and broaching on the harder aluminium alloys.

Castrol Alusol[®] B can also be used on ferrous metal and copper-based alloys. It is therefore ideal for machining operations where aluminium and aluminium alloys are the main metals machined, but others are also processed on the same equipment.

Benefits

- Special lubricity additives ensure excellent machining performance, particularly improved surface finish, greater dimensional accuracy and longer tool life.
- Excellent resistance to bacteria and fungus means EXTENDED COOLANT LIFE and freedom from unpleasant odour.
- Very stable emulsions ensure machining performance is maintained throughout coolant life, giving consistent product quality and reduced risk of corrosion.
- **Castrol Alusol[®] B** contains corrosion inhibitors to protect machines and components and reduce the need for inter-operational dewatering and corrosion protection processes.
- Excellent wetting properties reduce drag-out and provide cleaner machine tools and components.
- Suitable for mixed metal machining, can be used for most metals and machining operations.
- Environmentally friendly – formulated without nitrites, phenols and chlorine.
- Disposal costs are contained as emulsions are readily split by conventional techniques.
- Operator-friendly – pleasant odour, non-irritant and minimal defatting action on skin.
- All of the above benefits add up to excellent cost effectiveness.

Recommended Dilutions

OPERATION	TYPICAL ALLOY			
BS Specification	(Increasing difficulty of machining →)			
BS LM	4	6	25	27
Australian AS Specification				
Turning and Drilling	3%	4%	5%	6%
Automatic Lathe Work	3%	4%	5%	6%
Heavy Duty Milling	4%	4.5%	5%	6%
Broaching	5%	7%	8%	10%
Tapping and Reaming	5%	7%	8%	10%

Measuring Emulsion Strength

To ensure optimum performance of the emulsion, check the emulsion strength weekly and adjust if necessary.

- A quick, easy and accurate method is by using a refractometer, such as the Atago N10 Hand Sugar Refractometer, available from Castrol. The following graph converts the refractometer readings to percentage concentration for **Castrol Alusol® B**.

Method Of Use

1. Zero instrument according to manufacturer's instructions, including making allowance for temperature variations.
2. Allow coolant to circulate and then take representative sample of coolant from coolant system, preferably from the 'clean' tank. Avoid picking up tramp oil. If necessary, allow sample to stand a few minutes and remove the oil from the surface.
3. Pour a large drop of coolant sample on the prism and close flap. Ensure a full film of coolant is trapped between the flap and the prism. Hold the instrument up to the light and take the percentage reading.
4. Convert the reading to give the concentration of the coolant from the following graph.
5. After use rinse the refractometer flap and prism surfaces in tap water and wipe dry.

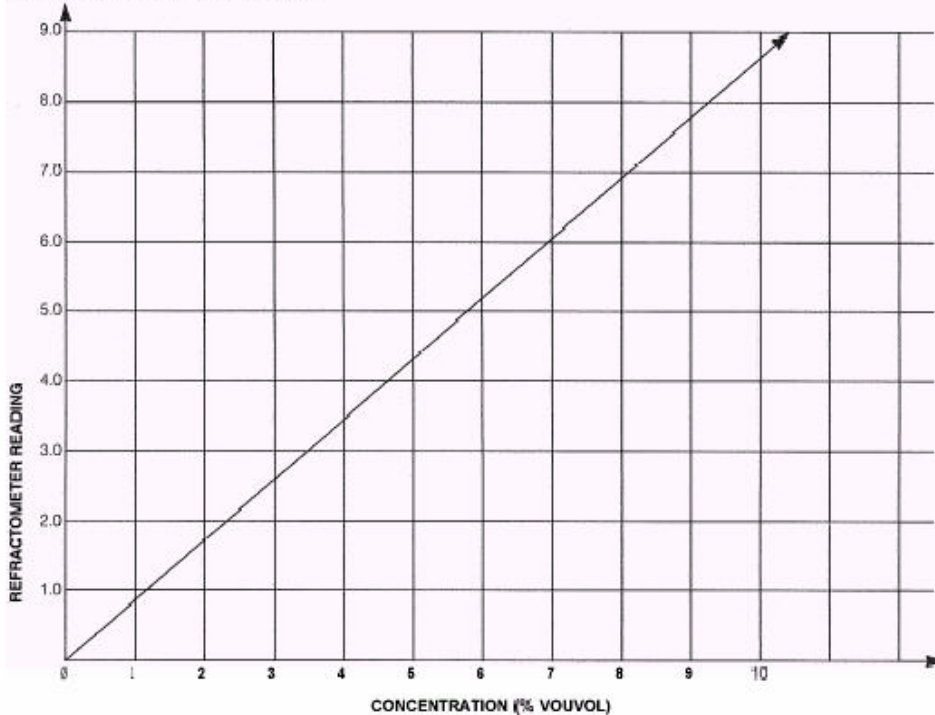
Typical Data

- Colour (concentrate) : Amber
- Density at 20°C : 0.955
- 5% in hard water (200 ppm CaCO₃) : Translucent
- pH of 5% emulsion in distilled water : 8.6
- Reflective Index : 1.16

The above are typical data and do not constitute a specification.



Refractive Index Graph



Health, Safety and Environment

Health and Safety Information - see separate Material Safety Data Sheets available on request.

- Spillage: **SMALL - 20 LITRES OR LESS**
Soak up on Castrol Diatomaceous Earth or similar inert oil absorbent.
Arrange for disposal through an approved facility.
- LARGE - GREATER THAN 20 LITRES**
Contain as soon as possible, remove by best means available and
arrange recycling (preferred) or disposal through an approved facility.
- Disposal: New or used mineral oils or solvent must not be allowed to enter the
ground, ground water, water courses, sewers or drainage systems.
Advice may be sought from the Environmental Protection Authority or
from the local waste disposal authority.

All reasonable care has been taken to ensure that the information contained in this publication is accurate as of the date of printing. However, such information may, nevertheless, be affected by changes in the blend formulation occurring subsequent to the date of printing. Material Safety Data Sheets are available for all Castrol Industrial Australia Inc. products. The MSDS must be consulted for appropriate information regarding storage, safe handling and disposal of a product.

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