



## Rustilo™ Aqua 21

Soluble corrosion preventive oil

### Description

Castrol Rustilo™ Aqua 21 (previously called Aquasafe™ 21) is a medium viscosity, mineral oil based product containing film-forming additives and coupling agents, which is supplied as a concentrate for dilution with water prior to use. After the evaporation of the water phase, the product leaves an ultra-thin, oily film on ferrous components.

### Application

Rustilo Aqua 21 is an inter-operational, short to medium term corrosion preventive which is used as an emulsion. It is particularly recommended for protecting metal components from corrosion after other aqueous treatments.

Rustilo Aqua 21 can be applied by immersion and low pressure spray.

### Conditions of Use

Concentration:	5 - 20%
Temperature:	Preferably 50 - 60 °C (120 - 140 °F)

### Advantages

- Free from hydrocarbon solvents, complies with EC Solvent Directive (1999/13/EC)
- Heavy metals free (for example, Barium), which may help to fulfil aspects of legislative requirements and waste treatment requirements that specify that these chemicals are excluded.
- Emulsion is stable up to 80°C (176 °F)
- Very good stability against inorganic salts. May be used even after applications where high levels of contamination could be expected, e.g. subsequent to heat treatment or electroplating processes
- Excellent wetting properties
- Rustilo Aqua 21's protective film can easily be removed, if required, by an alkaline process cleaner

## Typical Characteristics

Description	Test Method	Unit	Value
Concentrate			
Appearance	Visual	-	Clear, brown fluid
Density @ 15°C	ASTM D1298	g/ml	0.91
Viscosity @ 40°C	ASTM D446	mm <sup>2</sup> /s	60
Dilution			
Appearance (20% Emulsion)	Visual	-	milky
pH (20% emulsion)	ASTM E70/97	-	9.2
Film type	Visual	-	Oily
Film Thickness (20% Emulsion)	In-house	µm	2.0
Coverage (20% Emulsion)	In-house	m <sup>2</sup> /L	112
Corrosion Protection (20% Emulsion)	(*) Indoor Storage	Month	8-12
	(**) Outdoor Storage	Month	Not recommended
Refractometer Factor	-	-	0.9

Subject to usual manufacturing tolerances.

## User Advice

Always add Rustilo Aqua 21 to water (preferably at 30 - 35 °C (86 - 95 °F)) when making an emulsion.

As Rustilo Aqua 21 gives a semi-stable emulsion, it is beneficial to keep the fluid bath in constant circulation, for example with a circulation pump, stirrer or by continuous component throughput.

Check concentration, pH and bath level regularly, especially if the emulsion is used hot.

The protective film must be completely dry before packaging.

In order to minimise the risk of any stability or corrosion issues caused by increasing levels of water hardness and corrosive inorganic salts (i.e. chloride), it is recommended to top-up evaporation losses with deionised water.

## Additional Information

The claims on film thickness and consumption are average values. These are valid for smooth surfaces with good drain-off characteristics and simple geometries without holes or recesses.

(\*) "Indoor storage" describes the storage of ferrous components in closed store-rooms having a relative humidity of 60%. The full corrosion protection can only be provided when the water is completely evaporated. Increased protection times could be achieved by treating finished surfaces or storing the fully dried parts in a sealed pack.

(\*\*) "Outdoor storage" describes open storage, which assumes primary protection from the elements by tarpaulin or other form of cover.

## Storage

To avoid product deterioration always keep the container / drum tightly sealed. For optimum product stability, store between 5°C / 41°F and 45°C / 113°F in a cool, dry place away from direct sunlight. Prevent exposure to frost and avoid water ingress. It is preferable to store the product indoors.

For more details, please refer to the Safety Data Sheet for this product.

**This product was previously called Aquasafe 21. The name was changed in 2015.**

Rustilo™ Aqua 21  
07 May 2015

Castrol, the Castrol logo and related marks are trademarks of Castrol Limited, used under licence.

This data sheet and the information it contains is believed to be accurate as of the date of printing. However, no warranty or representation, express or implied, is made as to its accuracy or completeness. Data provided is based on standard tests under laboratory conditions and is given as a guide only. Users are advised to ensure that they refer to the latest version of this data sheet. It is the responsibility of the user to evaluate and use products safely, to assess suitability for the intended application and to comply with all applicable laws and regulations. Material Safety Data Sheets are available for all our products and should be consulted for appropriate information regarding storage, safe handling, and disposal of the product. No responsibility is taken by either BP plc or its subsidiaries for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from hazards inherent in the nature of the material. All products, services and information supplied are provided under our standard conditions of sale. You should consult our local representative if you require any further information.

Castrol Industrial, Technology Centre , Whitchurch Hill , Pangbourne , Reading , RG8 7QR , United Kingdom

[www.castrol.com/industrial](http://www.castrol.com/industrial)