

RELIASOL S-BA

Water-Soluble Cutting and Grinding Fluid with Excellent Resistance to Rotting

RELIASOL S-BA is a water-soluble cutting and grinding oil which is formulated with antibacterial substances and lubricity improver. **RELIASOL S-BA** is excellent in resistance to decay, cutting performance, aluminum discoloration resistance and antifoaming property. **RELIASOL S-BA** is an environmentally friendly oil, which is not subjected to PRTR law, because sulfur, phosphorus and chlorine type extreme pressure agents are not included. **RELIASOL S-BA** is a high performance oil suitable for metal processing of aluminum alloy, cast iron, carbon steel, and etc. It corresponds to JIS A 2 type 2.

● Special Features

1. Superior Rotting Resistance

RELIASOL S-BA maintains spoil resistance for a long time, because it contains antimicrobial substances. Since **RELIASOL S-BA** is also excellent in separability from sliding surface oil, it is possible to extend the life of the liquid.

2. Good Cutting and Grinding Performance

Because **RELIASOL S-BA** contains lubricity improver, it has good cutting characteristics.

3. Superior resistance in aluminum discoloration

Because **RELIASOL S-BA** is designed to prevent discoloration of aluminum alloy, it is suitable for processing aluminum alloy that is easy to discolor, such as die-casting material and duralumin.

4. Outstanding Foaming Prevention

RELIASOL S-BA has low foaming property and excellent anti-foaming property.

5. High human safety

RELIASOL S-BA is environmentally friendly product that is not applicable to PRTR law.

● Applications

RELIASOL S-BA is suitable for turning, drilling, reaming, etc. of steel materials such as carbon steel and cast iron and aluminum alloys. It is also suitable for grinding of steel materials.

● Dilution Ratio for Typical Uses

Cutting: 10 to 30 times for steel materials

Grinding: 20 to 50 times

The dilution ratio above is intended for typical operating condition. The ratio must be adjusted depending on the cutting conditions and volume.

● Containers

200-liter drums, 20-liter cans.

● Typical Properties of RELIASOL S-BA

Appearance (original fluid)	Yellow
(diluted fluid)	White emulsion
Density (15°C) , g/cm ³	0.98
Surface tension* (25°C) , mNm	35.7
pH *	9.5
Anticorrosion test(RT,48h)*	
Steel sheet	No discoloration
Aluminum sheet	No discoloration
Copper sheet	No discoloration
Foaming* (24°C) , ml	0
Emulsifying stability* (RT:24°C)	
Distilled water, ml oil	0
Distilled water, ml creamy	0
Hard water, ml oil	0
Hard water, ml creamy	0

*Measured with 30x diluted fluid

Note: The typical properties may be changed without notice. (June 2016)

(Anti-corrosion property)

·Test method

1g of cast iron chips are uniformly dispersed on a circular filtering paper (36mm in diameter) in a petri dish. Sample dilution liquid is dropped using a syringe to moisten the cast iron chips. After that, petri dish is left exposed at a room temperature for 24 hours. After 24 hours, chips are removed from petri dish and the degree of discoloration (rust transfer) on filtering paper is visually observed to identify the rust prevention level according to the score on Table 1..

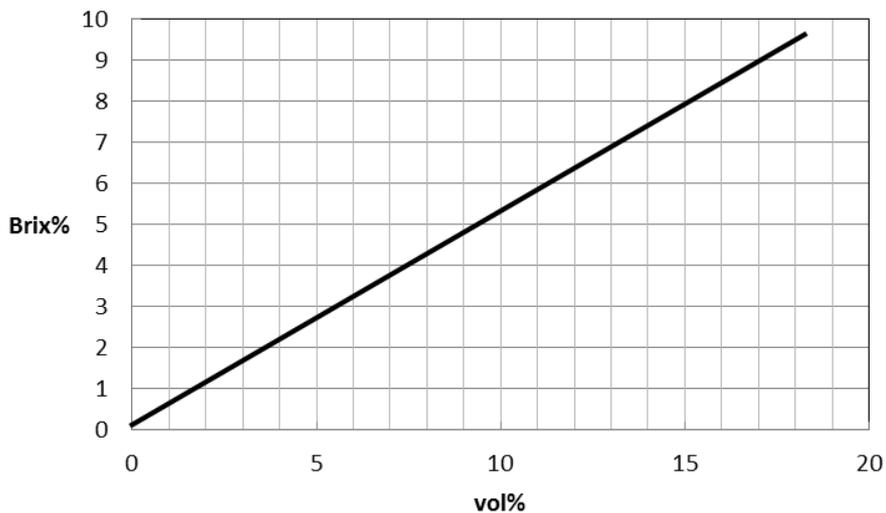
Table 1 Rating of rust prevention performance

Rating	Discoloration degree
0	No discoloration
1	Less than or equal to 3 discoloration spots (less than 1mm in diameter)
2	Discolored surface area <1%
3	1% ≤ Discolored surface area <5%
4	5% ≤ Discolored surface area
5	Discoloration is observed on whole surface

Table 2 Test results (Anti-rust performance) of RELIASOL S-BA

Dilution Ratio	10x diluted fluid	30x diluted fluid	50x diluted fluid
Rating	0	0	0

**Concentration Conversion Graph for RELIASOL S-BA
(Atago Digital Refractometer PR-101)**





Handling Precautions

▼ Follow these precautions when handling this product.

RELIASOL S-BA

Composition :	Water-soluble processing oil; Mixture(Base Oil, Water, Additives)
Precautionary pictograms:	
Signal word:	Warning
Hazard Statement:	May cause allergic skin reaction
Precautionary Statements: Prevention	<ul style="list-style-type: none">• Do not handle until all safety precautions have been read and understood.• Wear protective gloves/protective clothing/eye protection/face protection.• Do not allow the eyes to become exposed to the product. Do not swallow the product.• Contaminated work clothing should not be allowed out of the workplace.• Avoid breathing dust/fume/gas/mist/vapours/spray.• Wash hands thoroughly after handling.• Do not eat, drink or smoke when using this product.
Response	<ul style="list-style-type: none">• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.• IF ON SKIN: Wash with plenty of soap and water.• Take off contaminated clothing and wash before reuse.• If skin irritation or a rash occurs: Get medical advice/attention.
Storage	<ul style="list-style-type: none">• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.• Containers that have been opened must be tightly sealed.
Disposal	<ul style="list-style-type: none">• Dispose of contents/container in accordance with local/regional/national/international regulations.• If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.