

# RELIASOL S-BA(N)

## Water-Soluble Cutting and Grinding Fluid with Excellent Resistance to Decay

**RELIASOL S-BA(N)** is a water-soluble cutting and grinding oil which is formulated with antibacterial substances and lubricity improver. **RELIASOL S-BA(N)** is excellent in resistance to decay, cutting performance, aluminum discoloration resistance and antifoaming property. **RELIASOL S-BA(N)** 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(N)** is not falling under the Poisonous and Deleterious Substances Control Law, and is also considered for its effects on the human body. **RELIASOL S-BA(N)** is a high performance oil suitable for metal processing of aluminum alloy, cast iron, carbon steel, etc. It corresponds to JIS A 2 type 2.

### ● Special Features

#### 1. Superior Decay Resistance

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

#### 2. Good Machining Performance

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

#### 3. Superior resistance in aluminum discoloration

Because **RELIASOL S-BA(N)** has a composition that prevents 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(N)** has low foaming property and excellent anti-foaming property.

#### 5. High human safety

**RELIASOL S-BA(N)** is environmentally friendly product that is not applicable to PRTR law.

**RELIASOL S-BA(N)** is a product that does not contain candidate chemical substances subject to the Poisonous and Deleterious Substances Control Law and takes into consideration the effects on the human body.

### ● Applications

**RELIASOL S-BA(N)** 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 Rate During Use

Cutting of steel materials: 10 to 30 times  
Grinding: 20 to 50 times

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

### ● Containers

200-liter drums, 20-liter cans.

### ● Typical Properties of RELIASOL S-BA(N)

Appearance (original fluid)	Yellow
(diluted fluid)	White emulsion
Density (15°C), g/cm <sup>3</sup>	0.99
Surface tension* (25°C), mNm	35.6
pH *	9.4
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 2019)

**(Anti-corrosion property)**

**-Test method**

Disperse 1 g of cast iron chips uniformly in a circle with a diameter of 36 mm on a paper placed in a petri dish and drop the sample dilution liquid using a syringe so that the entire cast iron chip moistens. After that, after leaving the petri dish for 24 hours at room temperature, remove the chips and visually observe the degree of discoloration (rust transfer) in the circle on the filter paper and judge rust prevention level according to the score in Table 1 .

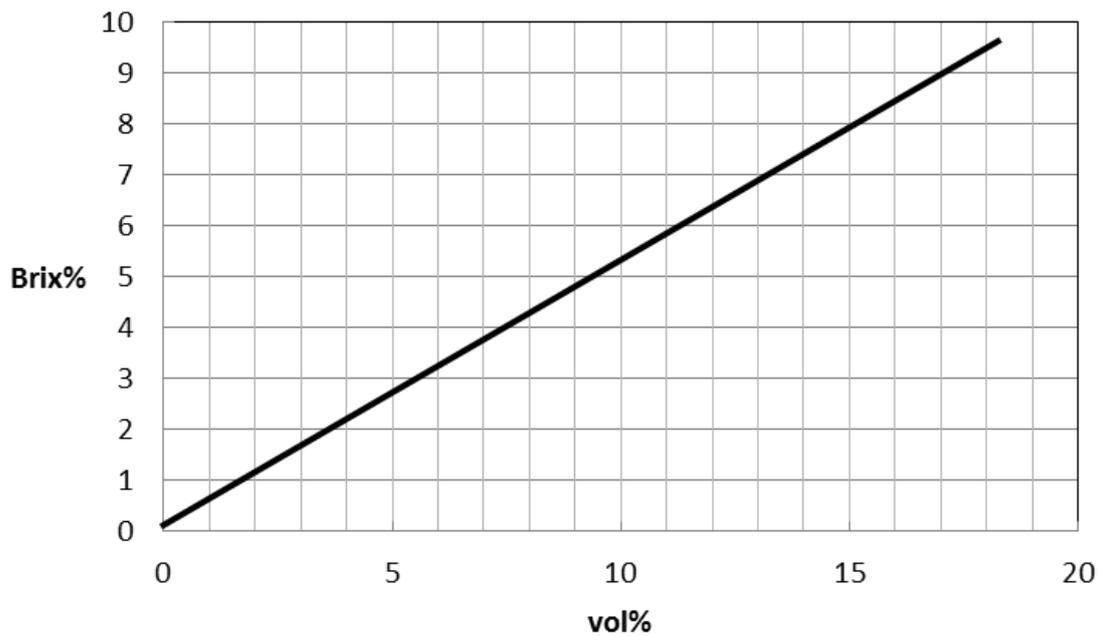
**Table 1 Rating of rust prevention performance**

Rating	Discoloration degree
0	No discoloration
1	Discoloration within 1 mm radius is within 3 locations
2	Discoloration less than 1% of the surface
3	Discoloration is 1% or more and less than 5% of the surface
4	5% or more discoloration on the surface
5	Discoloration is the whole surface

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

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

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





## Handling Precautions

▼ Follow these precautions when handling this product.

### RELIASOL S-BA(N)

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