

RELIASOL S-UA(N)

Micro-emulsion type water-soluble cutting fluid for heavy cutting

RELIASOL S-UA(N) is a micro-emulsion type water-soluble cutting fluid that enables machining of ferrous materials including stainless steel, aluminum materials and copper materials with excellent cooling and penetration performance. **RELIASOL S-UA(N)** does not contain candidate chemical substances subject to the Poisonous and Deleterious Substances Control Law, and is considered for its effects on the human body. It does not contain phosphorus and chlorine type extreme pressure agents. **RELIASOL S-UA(N)** can be used for a long time because it contains a high-performance surfactant to reduce the stickiness and decay trouble of water-soluble cutting fluids. **RELIASOL S-UA(N)** corresponds to JIS K 2241 Type A2, No.2.

● Special Features

1. Excellent machining performance

RELIASOL S-UA(N) has superior cutting performance due to its unique combination of surfactant and high-performance lubricity improver. **RELIASOL S-UA(N)** also has high cooling and penetration properties, so it exhibits excellent cutting performance in heavy machining of ferrous materials including stainless steel.

2. Superior decay resistance and anti-stickiness

RELIASOL S-UA(N) contains a high-performance surfactant to prevent the cutting fluid from sticking and has excellent decay resistance, making it possible to extend the life of the fluid.

3. High human safety

RELIASOL S-UA(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-UA(N) is suitable for various machining of aluminum alloys, copper materials, ferrous materials including cast iron, etc. **RELIASOL S-UA(N)** is suitable for machining and heavy cutting of difficult-to-cut materials including stainless steel.

● Dilution Rate During Use

Heavy cutting of ferrous materials such as steel and stainless steel: 5 to 20 times

Cutting of aluminum and copper materials :

10 to 30 times

The above dilution rates are based on the assumption of standard operating conditions. They should be adjusted depending on the machining conditions and amount of processing.

● Containers

200-liter drum and 20-liter can

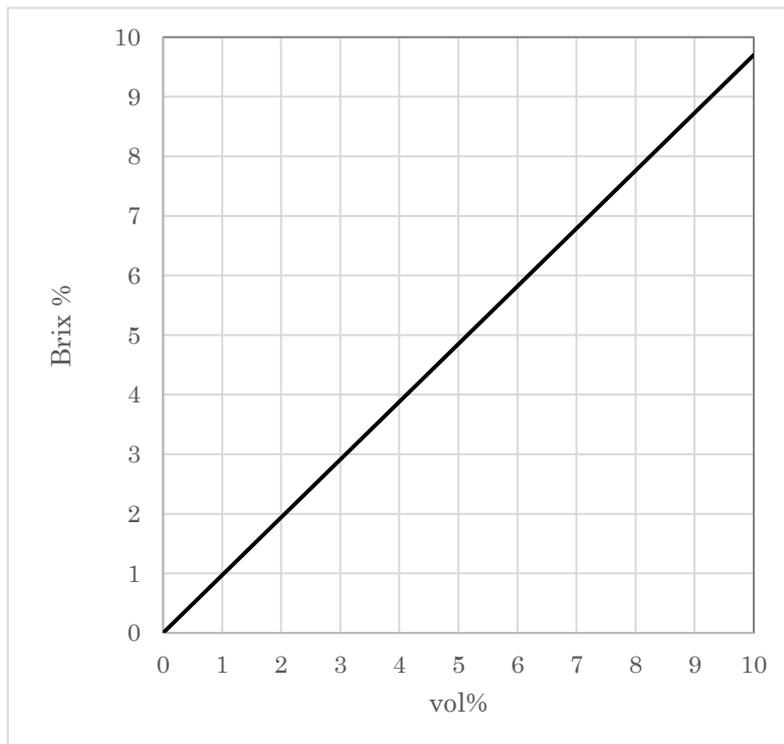
● Typical Properties of RELIASOL S-UA(N)

Appearance (original fluid)	Yellowish-brown
(diluted fluid)	Milky white
Density (15°C), g/cm ³	0.977
Surface tension* (25°C), mN/m	29.7
pH *	9.1
Anticorrosion test (RT, 48h)*	
Steel sheet	No discoloration
Aluminum sheet	No discoloration
Copper sheet	No discoloration
Foaming* (24°C), ml	0

*Measured with 10x diluted fluid

Note: The typical properties may be changed without notice. (January 2023)

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





Handling Precautions

▼ Follow these precautions when handling this product.

Composition :	Water-soluble processing oil Mixture(Base oil(s), Additives)
Hazard pictograms:	
Signal word:	Warning
Hazard Statement:	May cause an allergic skin reaction Harmful to aquatic life Harmful to aquatic life with long lasting effects
Precautionary Statements:	<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.• Avoid release to the environment.• 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/doctor.• 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.• If skin irritation or a rash occurs: Get medical advice/attention.• Take off contaminated clothing and wash it before reuse.
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.