

RELIASOL S-PA(N)

Micro emulsion type water soluble cutting fluid for nonferrous metals

RELIASOL S-PA(N) is a water-soluble cutting fluid suitable for reaming and tapping which require finished surface accuracy of aluminum alloy. Since **RELIASOL S-PA(N)** contains a high functional surfactant, it reduces stickiness and spoilage of water-soluble cutting oil. Therefore it is possible to use it for a long time. **RELIASOL S-PA(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. Also, it does not contain sulfur, phosphorus and chlorine type extreme pressure agents. **RELIASOL S-PA(N)** is a micro-emulsion type that can be used with hard dilution water, and corresponds to JIS K2241 Type A2, No. 2.

● Special Features

1. Excellent cutting performance

RELIASOL S-PA(N) has good cutting characteristics because it contains excellent lubricity improver. In particular, it demonstrates excellent cutting performances with reaming and tapping which require finished surface roughness of aluminum alloy.

2. Superior decay resistance and prevention of stickiness

RELIASOL S-PA(N) is excellent in prevention of sticking of cutting fluid and resistance to decay, because it is formulated with high functional surfactant. Thus it can be used for a long time.

The diluent of **RELIASOL S-PA(N)** can also be used in a centralized coolant supplying device.

3. Excellent rust prevention

RELIASOL S-PA(N) is suitable for processing ferrous materials such as castings, and contains additives with excellent rust prevention properties.

4. Outstanding Foaming Prevention

RELIASOL S-PA(N) is excellent in antifoaming properties, and diluted solution can be used in high-pressure coolant up to 7 MPa.

5. High human safety

RELIASOL S-PA(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-PA(N) is suitable for various processing of aluminum alloy and ferrous materials such as carbon steel and cast iron. It is also suitable for processing with a machining center.

● Dilution Rate During Use

Cutting of aluminum alloy and ferrous 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.

● Packaging

200-liter drum and 20-liter can

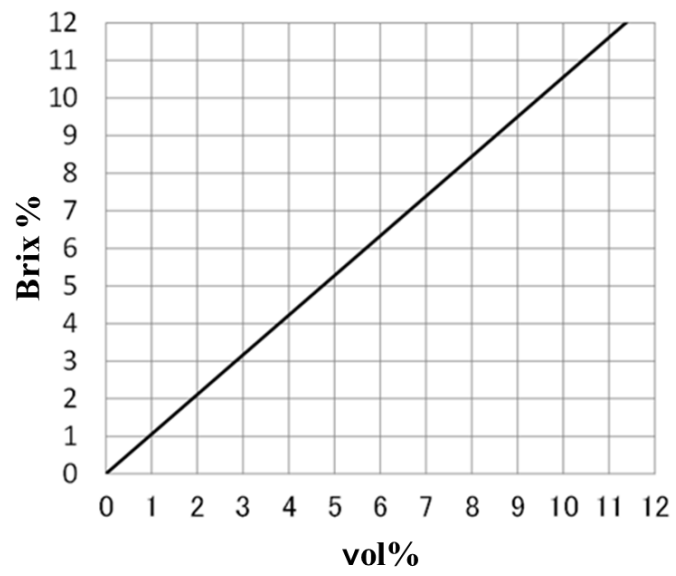
● Typical Properties of RELIASOL S-PA(N)

| | | |
|------------------------------------|-------------------------------------|--------------------------------|
| Appearance | (original fluid) (diluted fluid) | Light yellow White emulsion |
| Density (15°C) , g/cm ³ | | 0.944 |
| Surface tension* (25°C) , mN/m | | 33 |
| pH * | | 9.1 |
| Anticorrosion test(RT,48h)* | | |
| Steel sheet | | No discoloration |
| Aluminum sheet | | No discoloration |
| Copper sheet | | No discoloration |
| Foaming* (24°C) , ml | | 1 |

*Measured with 10x diluted fluid

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


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





Handling Precautions

▼ Follow these precautions when handling this product.

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|---|--|
| Composition : | Water-soluble processing oil; Mixtures |
| Hazard pictograms: |  |
| Signal word: | Warning |
| Hazard Statement: | May cause an allergic skin reaction May cause damage to organs (central nerve system, kidney) May cause damage to organs (central nerve system) through prolonged or repeated exposure Harmful to aquatic life Harmful to aquatic life with long lasting effects |
| 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.• Avoid release to the environment.• Contaminated work clothing should not be allowed out of the workplace.• Do not breathe 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.• Get medical advice/attention if you feel unwell.• 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.• Store locked up |
| 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. |