RELIACUT DE, DE-P Series
Chlorine-free anti-mist cutting fluid with high flash point

RELIACUT DE, DE-P Series are chlorine-free anti-mist type cutting fluids blended with properly-selected inactive sulfurized extreme-pressure agents and friction modifiers. Since special synthetic oils are used as base oils, RELIACUT DE, DE-P Series feature superior processing performance, high flash point and low viscosity. RELIACUT DE, DE-P Series are suitable for general lathing and processing, gear cutting and other demanding operations of non-ferrous metals and steel materials such as carbon steel and alloy steel.

● Special Features

1. Excellent Cutting and Grinding Performance
   Since RELIACUT DE, DE-P Series are blended with synthetic oils which have superior oiliness effect, inactive sulfurized extreme-pressure agents and special friction modifiers, they provide improved finished surface roughness and longer tool life in the general machining of ferric metals.

2. Excellent Lubricity
   RELIACUT DE, DE-P Series are blended with special sulfurized extreme-pressure agents and they feature excellent load carrying capacity.

3. High Viscosity Index and Low Pour Point
   Because of the use of special synthetic oils as base oils, RELIACUT DE, DE-P Series have high viscosity index and low pour point. Therefore, they can be used in a wide range of temperatures.

4. Excellent Oxidation Stability
   RELIACUT DE Series use synthetic oils which are superior in chemical stability. RELIACUT DE Series can be used for a longer term than vegetable oil-based cutting oils.

● Applications

**RELIACUT DE 10, RELIACUT DE-P 15**
* Suited for drilling, reaming, threading, deep hole drilling and various processing at machining center of non-ferrous metals and steel materials such as carbon steel and alloy steel

**RELIACUT DE-P 20**
* Suited for drilling, reaming, threading, deep hole drilling and various processing such as machining center, lathe, automatic plate processing of non-ferrous metals and steel materials such as carbon steel and alloy steel

**RELIACUT DE-P 25**
* Suited for general lathing and processing, gear cutting and automatic lathe processing of non-ferrous metals and steel materials such as carbon steel and alloy steel

● Containers

200-liter drums and 20-liter cans
## Typical Properties of RELIACUT DE, DE-P Series

<table>
<thead>
<tr>
<th></th>
<th>DE 10</th>
<th>DE-P 15</th>
<th>DE-P 20</th>
<th>DE-P 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Light yellow,</td>
<td>Light yellow,</td>
<td>Light yellow,</td>
<td>Light yellow,</td>
</tr>
<tr>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color (ASTM)</td>
<td>L1.0</td>
<td>L1.0</td>
<td>L1.5</td>
<td>L1.5</td>
</tr>
<tr>
<td>Density</td>
<td>0.865</td>
<td>0.953</td>
<td>0.893</td>
<td>0.904</td>
</tr>
<tr>
<td>Kinematic viscosity (40°C)</td>
<td>10.0</td>
<td>16.8</td>
<td>19.7</td>
<td>24.5</td>
</tr>
<tr>
<td>Kinematic viscosity (100°C)</td>
<td>2.95</td>
<td>4.01</td>
<td>5.49</td>
<td>5.79</td>
</tr>
<tr>
<td>Viscosity index</td>
<td>160</td>
<td>141</td>
<td>244</td>
<td>193</td>
</tr>
<tr>
<td>Flash point (COC)</td>
<td>230</td>
<td>256</td>
<td>256</td>
<td>256</td>
</tr>
<tr>
<td>Pour point (°C)</td>
<td>-25</td>
<td>-17.5</td>
<td>-27.5</td>
<td>-25</td>
</tr>
<tr>
<td>Acid number</td>
<td>0.15</td>
<td>0.07</td>
<td>0.31</td>
<td>0.13</td>
</tr>
<tr>
<td>Copper corrosion</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fatty content</td>
<td>&gt; 70</td>
<td>&gt; 70</td>
<td>&gt; 70</td>
<td>&gt; 70</td>
</tr>
<tr>
<td>Sulfur content</td>
<td>0.31</td>
<td>0.51</td>
<td>0.50</td>
<td>0.50</td>
</tr>
</tbody>
</table>

Note: The typical properties may be changed without notice. (March 2020)

### Handling Precautions

Follow these precautions when handling this product.

#### RELIACUT DE 10

<table>
<thead>
<tr>
<th>Composition</th>
<th>Base Oil(s), Additives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precautionary pictograms:</td>
<td><img src="image" alt="Precautionary pictograms" /></td>
</tr>
<tr>
<td>Signal word:</td>
<td>Danger</td>
</tr>
<tr>
<td>Hazard Statement:</td>
<td>May be fatal if swallowed and enters airways</td>
</tr>
<tr>
<td></td>
<td>Harmful to aquatic life</td>
</tr>
<tr>
<td></td>
<td>Harmful to aquatic life with long lasting effects</td>
</tr>
<tr>
<td>Precautionary Statements:</td>
<td></td>
</tr>
<tr>
<td>Prevention</td>
<td>Do not handle until all safety precautions have been read and understood.</td>
</tr>
<tr>
<td></td>
<td>Wear protective gloves/protective clothing/eye protection/face protection.</td>
</tr>
<tr>
<td></td>
<td>Do not allow the eyes to become exposed to the product. Do not swallow the product.</td>
</tr>
<tr>
<td></td>
<td>Avoid release to the environment.</td>
</tr>
<tr>
<td></td>
<td>Wash hands thoroughly after handling.</td>
</tr>
<tr>
<td></td>
<td>Do not eat, drink or smoke when using this product.</td>
</tr>
<tr>
<td>Response</td>
<td>IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.</td>
</tr>
<tr>
<td></td>
<td>IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</td>
</tr>
<tr>
<td></td>
<td>If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.</td>
</tr>
<tr>
<td></td>
<td>IF ON SKIN: Wash with plenty of soap and water.</td>
</tr>
<tr>
<td></td>
<td>Do NOT induce vomiting.</td>
</tr>
<tr>
<td>Storage</td>
<td>The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.</td>
</tr>
<tr>
<td></td>
<td>Containers that have been opened must be tightly sealed.</td>
</tr>
<tr>
<td></td>
<td>Store locked up.</td>
</tr>
<tr>
<td>Disposal</td>
<td>Dispose of contents/container in accordance with local/regional/national/international regulations.</td>
</tr>
<tr>
<td></td>
<td>If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.</td>
</tr>
</tbody>
</table>
### RELIACUT DE-P 15

**Composition:** Base Oil, Additives  
**Precautionary pictograms:** Not applicable  
**Signal word:** Not applicable  
**Hazard Statement:** Harmful to aquatic life  

**Precautionary Statements:**  
- 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.  
- Wash hands thoroughly after handling.  
- Do not eat, drink or smoke when using this product.  

**Response:**  
- 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.  
- Avoid release to the environment.  

**Storage:**  
- 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:**  
- 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.  

### RELIACUT DE-P 20

**Composition:** Base Oil, Additives  
**Precautionary pictograms:** Not applicable  
**Signal word:** Not applicable  
**Hazard Statement:** Not applicable  

**Precautionary Statements:**  
- 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.  
- Wash hands thoroughly after handling.  
- Do not eat, drink or smoke when using this product.  

**Response:**  
- 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.  

**Storage:**  
- 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:**  
- 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.
## Composition
Base Oil, Additives

### Precautionary pictograms:
- ![](image)

### Signal word:
Warning

### Hazard Statement:
- Suspected of damaging fertility or the unborn child
- Harmful to aquatic life
- Harmful to aquatic life with long lasting effects

### Precautionary Statements:
- **Prevention**
  - 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.
  - Obtain special instructions before use.
  - Wash hands thoroughly after handling.
  - Do not eat, drink or smoke when using this product.

- **Response**
  - 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.
  - IF exposed or concerned: Get medical advice/attention.
  - Avoid release to the environment.

- **Storage**
  - 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**
  - 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.