RELIAPRESS RA Series

High performance chlorine-free press oils

RELIAPRESS RA is press oil especially for several press works such as deep-drawing, punching and bending work of steel plate.

● Special Features

1. RELIAPRESS RA is environmentally-friendly oil free of dioxin generation, because chlorine and lead additives are not contained. It can also prevent forming rust on products and machines.

2. RELIAPRESS RA keeps operation temperature low by the excellent lubricity. It can suppress the surface coloration of products, and also prolong metallic mold life.

3. RELIAPRESS RA is suitable as a press oil for wide materials such as SS, SC and SUS, etc.

● Applications

RELIAPRESS RA is suitable for metal forming such as deep drawing, punching and bending of steel sheets such as carbon steel sheet and galvanized steel sheet.

● Containers

200-liter drums and 20-liter cans

● Grades

Since RELIAPRESS RA is available in six viscosity grades ranging ISO 15 to 220, it can meet many different conditions.

● Typical Properties of RELIAPRESS RA Series

<table>
<thead>
<tr>
<th>Grade</th>
<th>15</th>
<th>20</th>
<th>30</th>
<th>60</th>
<th>150</th>
<th>220</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color(ASTM)</td>
<td>L2.0</td>
<td>L2.0</td>
<td>L2.0</td>
<td>L2.0</td>
<td>L3.5</td>
<td>L3.0</td>
</tr>
<tr>
<td>Density (15°C)</td>
<td>0.872</td>
<td>0.879</td>
<td>0.874</td>
<td>0.896</td>
<td>0.928</td>
<td>0.930</td>
</tr>
<tr>
<td>Kinematic viscosity (40°C)</td>
<td>mm²/s</td>
<td>15</td>
<td>20</td>
<td>30</td>
<td>55</td>
<td>150</td>
</tr>
<tr>
<td>Flash point (COC)</td>
<td>°C</td>
<td>178</td>
<td>188</td>
<td>222</td>
<td>228</td>
<td>218</td>
</tr>
<tr>
<td>Sulfur content</td>
<td>mass%</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Acid number</td>
<td>mg KOH/g</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>3.8</td>
</tr>
<tr>
<td>Copper strip corrosion(100°C,1h)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: The typical properties may be changed without notice. (Aug. 2019)
## Handling Precautions

Follow these precautions when handling this product.

### Composition:
Base Oil(s), Additives

### Signal word:
Danger

### Hazard Statement:
May be fatal if swallowed and enters airways

### 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.
- Do NOT induce vomiting.

### 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.
<table>
<thead>
<tr>
<th><strong>Composition:</strong></th>
<th>Base Oil(s), Mineral Oil, Triethanolamine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Precautionary pictograms:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Signal word:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Hazard Statement:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Precautionary Statements:</strong></td>
<td></td>
</tr>
</tbody>
</table>
| **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.  
 ・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(s), Additives

**Signal word:** Warning

**Hazard Statement:** Causes serious eye irritation

**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.
- IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

**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.