A company specialize in manufacturing Cutting Fluids, Rust Preventives, Heat Treatment Fluids, Metal forming Fluids, Metal Cleaner and Industrial Lubricants, etc.

DH Chemicals Co., Ltd
A company that gives the first priority to the quality of products for customers.
3, 137gil, Seongjuro, Seongsangu, Changwonsi  TEL : 055)283-3241 ~ 4 / FAX : 055)283-3245

Printed by February 2015
Founded in 1975, DH Chemicals Co., Ltd has grown into a leading metalworking fluids manufacturer in parallel with the development of automotive industry, mechanical metal industry and electronics industry, achieving outstanding performance in metalworking fluids.

We make our best endeavors to develop metalworking fluids for diversified industrial activities through intensive investment in the development of products that suit the diversified and specialized working environment, extensive experiences and R&D activities for customer satisfaction.

Having introduced Olex brand and developing various activities for manufacturing lubricants of the best quality, we are striving to grow into a dynamic and progressive company. Furthermore to meet the industrial trend and increase corporate competitiveness, we renamed our company DH Chemicals Co., Ltd.

Building trust with customers through strict quality control and our dedication to customers, we are equipped with a system which enables it to supply the products of the best quality to our customers in time, thereby serving as a partner to customers for the improvement of quality, cost reduction, process improvement and the improvement of working environment.

We, DH Chemicals Co., Ltd, will focus the corporate resources on the development of new products which will suit the high-tech, the requirements for environmental-friendliness and the attributes of advanced work skills in future, we will grow together with our customers.

Olex is the brand name of DH Chemical Co., Ltd
Our Institute is to improve the performance and life of emulsion, protect the environment and improve customer satisfaction on product quality through the development of new products and quality improvement.

We also strive to handle customer complaints and provide the accumulated know-how for you to choose the most ideal emulsion products for the work process of your companies.

Equipped with the latest facilities and excellent research team, we will strive to develop more improved products.

Current State of Research Institute
- Company-affiliated research institute
- Established in Nov 2000, Technological Alliance with Daido Chemical Industry Co., Ltd in Japan

We are making our best endeavors to meet customer requirements through the use of carefully selected raw materials, strict process management and the use of latest production facilities.

Quality Certifications
- KS quality mark
  - KSM 2173 (cutting oil)
  - KSM 2127 (gear oil)
  - KSM 2129 (inflow oil)
  - KSM 2126 (machine oil)

Best Quality Products
- Rust Prevention Oil
- Heat Treatment Oil

About Research Institute

Production Facilities
## Water Soluble Cutting Oil

### BIOSTABLE TYPE

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Appearance (Diluted Solution)</th>
<th>pH (9% Sol)</th>
<th>Concentration (%)</th>
<th>Applications (Materials)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH CUT 3100</td>
<td>Excellent biostability, Excellent lubricity, rust prevention, cleaning ability Suitable for general cutting &amp; grinding operation</td>
<td>Milky emulsion</td>
<td>9.3</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>DH CUT 3100CF</td>
<td>Excellent lubricity and biostability Suitable for aluminum machining</td>
<td>Milky emulsion</td>
<td>9.3</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>DH CUT 3100CF(A)</td>
<td>Improved anti-decay ability of DH CUT 3100CF</td>
<td>Milky emulsion</td>
<td>9.3</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>DH CUT 3100AL</td>
<td>Excellent lubricity, anti-decay ability Suitable for aluminum 70 series operation</td>
<td>Milky emulsion</td>
<td>9.0</td>
<td>5–10</td>
<td>Non-ferrous metal</td>
</tr>
<tr>
<td>DH CUT 4100</td>
<td>Excellent biostability, rust prevention, tramp oil separation Long sump life</td>
<td>Milky emulsion</td>
<td>9.6</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>DH CUT 4200P</td>
<td>Excellent lubricity for medium-heavy duty machining operation Excellent biostability</td>
<td>Light brown</td>
<td>9.9</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>DH CUT 540</td>
<td>Excellent rust prevention and biostability Excellent cleaning and hard water stability</td>
<td>Light brown</td>
<td>9.3</td>
<td>5–10</td>
<td>Steel, cast iron, steel</td>
</tr>
<tr>
<td>OLEX CUT 541</td>
<td>Excellent rust prevention and biostability Excellent cleaning and hard water stability</td>
<td>Milky emulsion</td>
<td>9.8</td>
<td>5–10</td>
<td>Steel, cast iron, steel</td>
</tr>
<tr>
<td>OLEX CUT 500D</td>
<td>Excellent rust prevention and biostability Excellent cleaning and hard water stability</td>
<td>Light brown</td>
<td>9.7</td>
<td>5–10</td>
<td>Steel, cast iron, steel</td>
</tr>
</tbody>
</table>

The above figures are mid-values.

### EMULSION TYPE

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Appearance (Diluted Solution)</th>
<th>pH (9% Sol)</th>
<th>Concentration (%)</th>
<th>Applications (Materials)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH CUT 350</td>
<td>General cutting &amp; grinding operation Excellent tramp oil separation</td>
<td>Milky emulsion</td>
<td>9.6</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>DH CUT 350H</td>
<td>Improved biostability &amp; biostability of DH CUT 350 Long sump life</td>
<td>Milky emulsion</td>
<td>9.4</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>OLEX CUT 2000</td>
<td>Excellent rust prevention &amp; biostability Excellent cleaning ability and hard water stability</td>
<td>Milky emulsion</td>
<td>9.7</td>
<td>5–10</td>
<td>Cast iron, steel</td>
</tr>
<tr>
<td>OLEX CUT 2000D</td>
<td>Excellent rust prevention &amp; biostability Excellent cleaning ability and hard water stability</td>
<td>Milky emulsion</td>
<td>9.7</td>
<td>5–10</td>
<td>Cast iron, steel</td>
</tr>
<tr>
<td>OLEX CUT 6500</td>
<td>Excellent lubricity and biostability Suitable for cast iron and aluminum (by good anti-decay ability)</td>
<td>Milky emulsion</td>
<td>9.7</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>OLEX CUT 6355</td>
<td>Excellent biostability, cleaning ability, anti-foaming and anti-decay ability Suitable for aluminum and copper operation</td>
<td>Milky emulsion</td>
<td>9.7</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>OLEX CUT 6200DS</td>
<td>Excellent rust prevention, biostability and tramp oil separation Long sump life</td>
<td>Milky emulsion</td>
<td>9.9</td>
<td>5–10</td>
<td>Cast iron, steel</td>
</tr>
<tr>
<td>OLEX CUT 9000AF</td>
<td>Amine and boron-free environment-friendly product Excellent lubricity, cleaning ability and anti-decay ability</td>
<td>Milky emulsion</td>
<td>9.0</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
</tbody>
</table>

The above figures are mid-values.

### NATURAL OIL TYPE

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Appearance (Diluted Solution)</th>
<th>pH (9% Sol)</th>
<th>Concentration (%)</th>
<th>Applications (Materials)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH NATURAL 100</td>
<td>1. Excellent biostability By use of vegetable oils (rapeseed and soybean) or synthetic ester. Provide improved machinability, surface finishing, tool life Suitable for all metal including aluminum machining</td>
<td>Milky emulsion</td>
<td>9.6</td>
<td>5–10</td>
<td>Steel</td>
</tr>
<tr>
<td>DH NATURAL 200</td>
<td>2. Thanks to its properties inhibiting the generation of microorganisms, it prevent the fluid from decomposition.</td>
<td>Milky emulsion</td>
<td>9.4</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>DH NATURAL 200R</td>
<td>3. Ideal alternative soluble cutting oil to neat cutting oil</td>
<td>Milky emulsion</td>
<td>9.4</td>
<td>5–10</td>
<td>Steel, non-ferrous metal</td>
</tr>
</tbody>
</table>

The above figures are mid-values.
**Water Soluble Cutting Oil**

**SEMI-SYNTHETIC TYPE**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Appearance</th>
<th>pH (1% sol)</th>
<th>Concentration (%)</th>
<th>Applications (Material)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH CUT 920TC</td>
<td>Excellent lubricity, rust prevention, anti-foaming and biostability Excellent performance for bearing grinding operation</td>
<td>translucent white</td>
<td>9.4</td>
<td>3~10</td>
<td>Cast iron, steel</td>
</tr>
<tr>
<td>DH CUT 500F</td>
<td>Excellent machine cleanliness, emulsion stability, biostability General cutting &amp; grinding operation</td>
<td>Green translucent</td>
<td>9.7</td>
<td>3~10</td>
<td>Cast iron, steel</td>
</tr>
<tr>
<td>COMIRON PA-200S</td>
<td>Excellent cleaning ability, lubricity Suitable for aluminium medium-heavy duty operation</td>
<td>translucent white</td>
<td>9.6</td>
<td>3~10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>DH CUT 480</td>
<td>Excellent anti-decay ability, cleaning ability, biostability Suitable for general cutting &amp; grinding of aluminium</td>
<td>translucent white</td>
<td>9.1</td>
<td>3~10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>DH CUT 4700D</td>
<td>Excellent biostability, cleaning, anti-foaming, anti-decay ability Excellent performance for aluminium piston operation</td>
<td>translucent white</td>
<td>9.2</td>
<td>3~10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>OLEX CUT 5000MG</td>
<td>Excellent lubricity, biostability, cleaning, anti-foaming, anti-decay ability Suitable for magnesium, aluminium operation</td>
<td>Ivory white translucent</td>
<td>9.7</td>
<td>3~10</td>
<td>Steel, non-ferrous metal, magnesium</td>
</tr>
<tr>
<td>OLEX CUT 5000MGU</td>
<td>Excellent lubricity, biostability, cleaning, anti-foaming and anti-decay ability Suitable for magnesium, aluminium operation</td>
<td>Ivory white translucent</td>
<td>9.7</td>
<td>3~10</td>
<td>Steel, non-ferrous metal, magnesium</td>
</tr>
<tr>
<td>OLEX CUT 6000</td>
<td>Excellent rust prevention, machine-cleaning, emulsion stability and biostability. General cutting and grinding operation.</td>
<td>Ivory white translucent</td>
<td>9.7</td>
<td>3~10</td>
<td>Cast iron, steel</td>
</tr>
<tr>
<td>OLEX CUT 6100</td>
<td>Excellent rust prevention, machine-cleaning, emulsion stability and biostability. General cutting and grinding operation.</td>
<td>Ivory white translucent</td>
<td>9.7</td>
<td>3~10</td>
<td>Cast iron, steel</td>
</tr>
<tr>
<td>OLEX CUT 6100S</td>
<td>Excellent rust prevention, machine-cleaning, emulsion stability and biostability. Suitable for camshaft operation.</td>
<td>Ivory white translucent</td>
<td>10.3</td>
<td>3~10</td>
<td>Cast iron, steel</td>
</tr>
<tr>
<td>OLEX CUT 6400FEAL</td>
<td>Excellent rust prevention, machine-cleaning, emulsion stability and biostability. Suitable for FE, AL operation using auto-dilution apparatus</td>
<td>Ivory white translucent</td>
<td>9.6</td>
<td>3~10</td>
<td>Steel, non-ferrous metal</td>
</tr>
<tr>
<td>DH CUT 2100</td>
<td>Excellent rust prevention, machine-cleaning, emulsion stability and biostability.</td>
<td>Ivory white translucent</td>
<td>9.7</td>
<td>3~10</td>
<td>Cast iron, steel</td>
</tr>
<tr>
<td>OLEX CUT 3000</td>
<td>Excellent rust prevention, biostability and dispersibility. Long life time without replacement.</td>
<td>translucent white</td>
<td>9.6</td>
<td>3~10</td>
<td>Cast iron, steel</td>
</tr>
</tbody>
</table>

The above figures are mid-values.

**CHEMICAL-MECHANICAL POLISHING TYPE**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Appearance (Undiluted Sol)</th>
<th>pH (10% Sol)</th>
<th>Concentration (%)</th>
<th>Applications (Materials)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLEX CUT P NO.1</td>
<td>Nano-scale grinding and excellent surface roughness. Suitable for precision grinding operation of carbon steel &amp; Si.</td>
<td>Ivory white emulsion</td>
<td>10.5</td>
<td>3~10</td>
<td>Steel, Si</td>
</tr>
<tr>
<td>OLEX CUT P NO.2</td>
<td>Nano-scale grinding and excellent surface roughness. Suitable for precision grinding operation of carbon steel &amp; Si.</td>
<td>Ivory white emulsion</td>
<td>10.5</td>
<td>3~10</td>
<td>Undiluted Solution, Steel, Si</td>
</tr>
</tbody>
</table>

OLEX CUT POLISHING NO.1 and NO.2 are chemically stable and has excellent stability, strength and adsorption properties. With great zeta potential, it has excellent silica dispersion have ability and particle size is consistent and mono-disperse properties. Due to these factors and high alkaline value, it’s suitable for the grinding operation for silicon semiconductor, wafer and tempered glass and also effective for chemical etching. It’s best products can be used for the industry of fibers, paper and casting as well as ceramic and organic films requiring precision polishing.

**Features**

1. Excellent chemical strength and adsorption performance.
2. With great zeta potential values, it has excellent dispersion stability.
3. With uniform particle size and high alkaline values, it is effective for chemical etching.
4. It can be applied to ceramic, organic films, paper and casing as well as silicon and tempered glass.
5. Insignificant viscosity variation despite working variables casting due to concentration and solid content ratio.
6. Separate cleaning is not require thanks to its excellent cleaning performance.

**Zeta Potential**

Zeta Potential is a unit for the size of the repelling force or attraction between the particles. The measurement of zeta potential allows it to understand the dispersion mechanism and control electostatic dispersion. In other words, with the increased zeta potential, the repulsive forces between the particles will grow whereas with decreased zeta potential, the cohesive strength between particles will grow. Thus the increase of absolute value of zeta potential increases stability.

<table>
<thead>
<tr>
<th>Zeta potential of competent products</th>
<th>OLEX CUT POLISHING NO.1’s Zeta Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particle-size distribution of competent products</td>
<td>OLEX CUT POLISHING NO.1’s Particle-size Distribution</td>
</tr>
</tbody>
</table>

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## SYNTHETIC TYPE

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Appearance</th>
<th>p H (%)</th>
<th>Concentration (%)</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DH CUT 630G</strong></td>
<td>Excellent anti-foaming, lubricity, chip precipitation. Suitable for the precision grinding of optical lens.</td>
<td>Fluorescent color, Transparent</td>
<td>9.4</td>
<td>3~10</td>
<td>Optical lens</td>
</tr>
<tr>
<td><strong>DH CUT 630H</strong></td>
<td>Excellent machine cleanliness, biostability. Suitable for grinding operation requiring anti-corrosion.</td>
<td>Colorless, Transparent</td>
<td>9.5</td>
<td>3~10</td>
<td>Steel, Copper</td>
</tr>
<tr>
<td><strong>DH CUT 630MN</strong></td>
<td>Excellent machine cleanliness, Less odor and skin irritation. Suitable for grinding and cutting operation.</td>
<td>Green, Transparent</td>
<td>9.5</td>
<td>3~10</td>
<td>Steel, Non-ferrous metal</td>
</tr>
<tr>
<td><strong>DH CUT 700D</strong></td>
<td>Excellent lubricity, biostability and dissolubility. Long life time with transparency.</td>
<td>Colorless, Transparent</td>
<td>9.6</td>
<td>3~10</td>
<td>Steel, Non-ferrous metal</td>
</tr>
<tr>
<td><strong>DH CUT 700H</strong></td>
<td>Excellent anti-foaming, rust prevention, biostability and dissolubility. Long life time with transparency.</td>
<td>Colorless, Transparent</td>
<td>9.7</td>
<td>3~10</td>
<td>Cast iron, Steel</td>
</tr>
<tr>
<td><strong>DH CUT 701D</strong></td>
<td>Excellent detergency, corrosion resistance and rust resistance. Suitable for grinding process requiring chip, detergency and rust resistance.</td>
<td>Colorless, Transparent</td>
<td>9.8</td>
<td>3~10</td>
<td>Cast iron, Steel</td>
</tr>
<tr>
<td><strong>DH CUT 702D</strong></td>
<td>Excellent lubricity, rust prevention, machine cleanliness and biostability. Suitable for grinding operation requiring chip cleanliness.</td>
<td>Transparent, Fluorescent color, Transparent</td>
<td>9.8</td>
<td>3~10</td>
<td>Cast iron, Steel</td>
</tr>
<tr>
<td><strong>DH CUT 702N</strong></td>
<td>Excellent lubricity, rust prevention, machine cleanliness and biostability. Suitable for grinding operation requiring chip cleanliness.</td>
<td>Transparent, Fluorescent color, Transparent</td>
<td>9.4</td>
<td>3~10</td>
<td>Cast iron, Steel</td>
</tr>
<tr>
<td><strong>DH CUT 703D</strong></td>
<td>Excellent machine cleanliness and chip precipitation. Suitable for grinding operation of ferrous metal &amp; aluminum.</td>
<td>Colorless, Transparent</td>
<td>9.6</td>
<td>3~10</td>
<td>Steel, Al</td>
</tr>
<tr>
<td><strong>DH CUT 703D</strong></td>
<td>Excellent anti-foaming, biostability, Less odor and stickness. Suitable for grinding of steel &amp; aluminum.</td>
<td>Transparent, Fluorescent color, Transparent</td>
<td>9.2</td>
<td>3~10</td>
<td>Steel, Al</td>
</tr>
<tr>
<td><strong>DH CUT 755</strong></td>
<td>Excellent lubricity, anti-foaming, machine cleanliness, biostability and dissolubility. Suitable for general cutting and grinding operation.</td>
<td>Transparent, Fluorescent color, Transparent</td>
<td>9.8</td>
<td>3~10</td>
<td>Cast iron, Steel</td>
</tr>
<tr>
<td><strong>DH CUT 760</strong></td>
<td>Excellent machine cleanliness, anti-foaming, biostability and dissolubility. Suitable for general grinding operation.</td>
<td>Transparent, Fluorescent color, Transparent</td>
<td>9.8</td>
<td>3~10</td>
<td>Steel, Non-ferrous metal</td>
</tr>
</tbody>
</table>

The above figures are mid-values.

## OLEX TYPE

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Appearance</th>
<th>p H (%)</th>
<th>Concentration (%)</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OLEX CUT 7000</strong></td>
<td>Excellent rust prevention, lubricity and biostability and dissolubility. Suitable for cutting and grinding operation.</td>
<td>Fluorescent transparent</td>
<td>9.7</td>
<td>3~10</td>
<td>Cast iron, Steel</td>
</tr>
<tr>
<td><strong>OLEX CUT 7000H</strong></td>
<td>Excellent rust prevention, lubricity and biostability and dissolubility. Suitable for cutting and grinding operation requiring high lubricity.</td>
<td>Fluorescent transparent</td>
<td>9.7</td>
<td>3~10</td>
<td>Cast iron, Steel</td>
</tr>
<tr>
<td><strong>OLEX CUT 7100</strong></td>
<td>Excellent rust prevention, lubricity, anti-foaming, chip precipitation. Suitable for cutting and grinding operation of glass substrate, optical lens and ferro-siloy.</td>
<td>Colorless, Transparent</td>
<td>9.4</td>
<td>3~10</td>
<td>Glass Cast iron, Steel</td>
</tr>
<tr>
<td><strong>OLEX CUT 7100SE</strong></td>
<td>Excellent rust prevention, lubricity, anti-foaming and chip precipitation. Suitable for the precision grinding of optical lens.</td>
<td>Colorless, Transparent</td>
<td>8.1</td>
<td>3~10</td>
<td>Tempered Glass for mobile phones</td>
</tr>
<tr>
<td><strong>OLEX CUT 7100TG</strong></td>
<td>Excellent lubricity, anti-foaming and chip precipitation. Excellent anti-detachability of UV INK for glass substrate.</td>
<td>Colorless, Transparent</td>
<td>7.9</td>
<td>3~10</td>
<td>Glass Cast iron, Steel</td>
</tr>
<tr>
<td><strong>OLEX CUT 7100G</strong></td>
<td>Excellent lubricity, anti-foaming and glass precipitation. Suitable for DIAMOND TYPE slcing operation.</td>
<td>Colorless, Transparent</td>
<td>8.0</td>
<td>3~10</td>
<td>Glass</td>
</tr>
<tr>
<td><strong>OLEX CUT 7200SW</strong></td>
<td>Excellent lubricity and silicon carbide dispersability. Suitable for SLURRY TYPE slcing operation.</td>
<td>Colorless, Transparent</td>
<td>6.9</td>
<td>3~10</td>
<td>Si</td>
</tr>
<tr>
<td><strong>OLEX CUT 7200D</strong></td>
<td>Excellent lubricity and silicon carbide dispersability. Suitable for DIAMOND TYPE slcing operation.</td>
<td>Colorless, Transparent</td>
<td>8.7</td>
<td>3~10</td>
<td>Si Cast iron, Steel</td>
</tr>
<tr>
<td><strong>OLEX CUT 7300</strong></td>
<td>Excellent lubricity, anti-foaming and silicon dispersability. Suitable for small cathode and ring.</td>
<td>Colorless, Transparent</td>
<td>9.6</td>
<td>3~10</td>
<td>Si Cast iron, Steel</td>
</tr>
<tr>
<td><strong>OLEX CUT 7400</strong></td>
<td>Suitable for precision grinding operation using synthetic type automatic dilution device.</td>
<td>Colorless, Transparent</td>
<td>10.0</td>
<td>3~10</td>
<td>Cast iron, Steel</td>
</tr>
<tr>
<td><strong>OLEX CUT 7400AR</strong></td>
<td>Excellent rust prevention, lubricity and anti-foaming. Suitable for cutting and grinding operation.</td>
<td>Colorless, Transparent</td>
<td>9.9</td>
<td>3~10</td>
<td>Cast iron, Steel</td>
</tr>
<tr>
<td><strong>OLEX CUT 7500</strong></td>
<td>Excellent lubricity, biostability and dissolubility. Suitable for cutting and grinding operation requiring high-lubricity.</td>
<td>Colorless, Transparent</td>
<td>8.9</td>
<td>3~10</td>
<td>Steel, Non-ferrous metal</td>
</tr>
<tr>
<td><strong>OLEX CUT 7500FE</strong></td>
<td>Excellent lubricity, biostability and dissolubility. Suitable for cutting and grinding operation of ferro-alloys requiring high-lubricity.</td>
<td>Colorless, Transparent</td>
<td>9.3</td>
<td>3~10</td>
<td>Steel, Non-ferrous metal</td>
</tr>
</tbody>
</table>

www.dhchem.co.kr
## Neat Cutting Oil

### Oily type (chlorine-free)

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Kinematic Viscosity (40℃;㎟/s)</th>
<th>Flash Point (℃)</th>
<th>Copper Corrosion (100℃)</th>
<th>Fat (%)</th>
<th>Chlorine (%)</th>
<th>Sulphur (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH POLISHING OIL 21</td>
<td>Suitable for polishing optical lens, Excellent surface finishing and chip settling</td>
<td>3.5</td>
<td>120</td>
<td>1a</td>
<td>B</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOL 103</td>
<td>Low viscosity and high flash point Suitable for grinding operation</td>
<td>3.0</td>
<td>120</td>
<td>1a</td>
<td>B</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOL 10H</td>
<td>Suitable for light-duty cutting of non-ferrous metals</td>
<td>0.0</td>
<td>160</td>
<td>1a</td>
<td>B</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOL 113G</td>
<td>Exclusively for CNC automatic lathe processing, Tool life extension. Suitable for Piston shaft operation of steel &amp; non-ferrous metals</td>
<td>12.5</td>
<td>160</td>
<td>1a</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOL 112H</td>
<td>Suitable for multi-axis automatic lathe machining of non-ferrous metals. Excellent high flash point and mist-prevention effect.</td>
<td>14.0</td>
<td>205</td>
<td>1a</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DK ECOCOOL RS-25</td>
<td>Eco-friendly MQL oil.</td>
<td>24.0</td>
<td>250</td>
<td>1a</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOL 18CF</td>
<td>Suitable for high speed cutting operation of general steel &amp; non-ferrous metals. Less scattering &amp; Turning</td>
<td>20.0</td>
<td>200</td>
<td>1a</td>
<td>B</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Sulfur type (Chlorine-free)

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Kinematic Viscosity (40℃;㎟/s)</th>
<th>Flash Point (℃)</th>
<th>Copper Corrosion (100℃)</th>
<th>Fat (%)</th>
<th>Chlorine (%)</th>
<th>Sulphur (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAICUTOL MS-151K-2</td>
<td>Suitable for Bearing super finishing, Excellent lubricity, desirability and oil stain prevention.</td>
<td>2.7</td>
<td>80</td>
<td>1a</td>
<td>B</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>MS COND-(K)</td>
<td>Suitable for Bearing super finishing (high viscosity product) Excellent lubricity, less scattering.</td>
<td>3.1</td>
<td>110</td>
<td>1a</td>
<td>B</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>OLEX CUTOL 803</td>
<td>Suitable for honing operation, Excellent penetrability, cleanliness and surface finishing.</td>
<td>3.8</td>
<td>130</td>
<td>1a</td>
<td>B</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DAICUTOL GIA-40A</td>
<td>Suitable for automatic lathe machining. Suitable for processing alloy steel-reaming, tapping, etc.</td>
<td>13.0</td>
<td>160</td>
<td>2a</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DAICUTOL GIA-40</td>
<td>Suitable for alloy steel gear shaving, hobbing, End-Mill machining. Suitable for lathe turning, milling, drilling, reaming, tapping of various steel.</td>
<td>26.0</td>
<td>200</td>
<td>2a</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DAICUTOL GIA-63</td>
<td>Suitable for broaching, drilling, reaming and tapping of various steel</td>
<td>13.5</td>
<td>155</td>
<td>3b</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DAICUTOL GIA-77</td>
<td>Suitable for broaching, drilling, reaming and tapping of various steel</td>
<td>20.0</td>
<td>160</td>
<td>4a</td>
<td>B</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>OLEX CUTOL 311</td>
<td>Containing a large amount of lubricating agents, Excellent lubricity and pressure resistance</td>
<td>11.0</td>
<td>165</td>
<td>1a</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>OLEX CUTOL 315</td>
<td>Low odor and prolonged tool life</td>
<td>14.5</td>
<td>170</td>
<td>1a</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>OLEX CUTOL 330CF</td>
<td>Suitable for difficult cutting requiring lubricity and pressure resistance.</td>
<td>31.0</td>
<td>210</td>
<td>3b</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>OLEX CUTOL 420CF</td>
<td>Suitable for difficult cutting requiring lubricity and pressure resistance.</td>
<td>25.0</td>
<td>184</td>
<td>4c</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOIL 717CF</td>
<td>Suitable for processing gears and values of various steel. Less mist and odor. Excellent Machinability.</td>
<td>17.5</td>
<td>190</td>
<td>4b</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOIL 723</td>
<td>Suitable for processing gears and values of various steel. Less mist and odor. Excellent Machinability.</td>
<td>27.0</td>
<td>170</td>
<td>4b</td>
<td>B</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOIL 725CF</td>
<td>Suitable for processing gears and values of various steel. Less mist and odor. Excellent Machinability.</td>
<td>27.0</td>
<td>190</td>
<td>1b</td>
<td>C</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

A: Below5% B:5-10% C: Above 10%
The above figures are mid-values.
### Neat Cutting Oil

**Chlorine-type**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Kinematic Viscosity @40℃ (㎟/s)</th>
<th>Flash Point (℃)</th>
<th>Copper Corrosion (.evaluate)</th>
<th>Fat (%)</th>
<th>Chlorine (%)</th>
<th>Sulfur (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH CUTOL 804D</td>
<td>Suitable for honing operation. Excellent penetrability and surface finish.</td>
<td>4.1</td>
<td>120</td>
<td>1a</td>
<td>A</td>
<td>A</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOL 109</td>
<td>Suitable for automatic lathe cutting, etc.</td>
<td>9.3</td>
<td>160</td>
<td>1a</td>
<td>A</td>
<td>A</td>
<td>–</td>
</tr>
<tr>
<td>DACUTOL RL-101</td>
<td>General-purpose cutting for general steel and non-ferrous metal. Excellent longevity and low skin irritation.</td>
<td>9.5</td>
<td>160</td>
<td>1a</td>
<td>A</td>
<td>A</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOL 18L</td>
<td>Suitable for high-speed processing of general steel and non-ferrous metal. Less scattering and turning prevention.</td>
<td>20.0</td>
<td>200</td>
<td>1a</td>
<td>A</td>
<td>A</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOL 123</td>
<td>Suitable for gear shaving, holding, etc.</td>
<td>25.0</td>
<td>200</td>
<td>1a</td>
<td>C</td>
<td>B</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOL 123N</td>
<td>Suitable for high-speed processing of general steel and non-ferrous metal. Less oil mist and excellent oxidation stability.</td>
<td>20.0</td>
<td>200</td>
<td>1a</td>
<td>C</td>
<td>B</td>
<td>–</td>
</tr>
<tr>
<td>DH CUTOL PS-102DK</td>
<td>Suitable for general-purpose cutting and grinding for steel and non-ferrous metal. Less color and excellent anti-scattering performance.</td>
<td>20.0</td>
<td>200</td>
<td>1a</td>
<td>A</td>
<td>A</td>
<td>–</td>
</tr>
<tr>
<td>OLEX CUTOL 200</td>
<td></td>
<td>20.0</td>
<td>200</td>
<td>1a</td>
<td>A</td>
<td>A</td>
<td>–</td>
</tr>
</tbody>
</table>

**Electric Discharge Machine Oil**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Kinematic Viscosity @40℃ (㎟/s)</th>
<th>Flash Point (℃)</th>
<th>Copper Corrosion (.evaluate)</th>
<th>Fat (%)</th>
<th>Chlorine (%)</th>
<th>Sulfur (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH ELECTRIC SPARK OIL</td>
<td>Suitable for special alloy steel and ultra-light alloys. High flash point and low odor and fuming.</td>
<td>3.0</td>
<td>120</td>
<td>1a</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DH ELECTRIC SPARK OIL 20</td>
<td>Suitable for special alloy steel and ultra-light alloys. Excellent cleanliness and cooling performance.</td>
<td>2.0</td>
<td>110</td>
<td>1a</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

**Chlorine-sulfur type (heavy duty)**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Kinematic Viscosity @40℃ (㎟/s)</th>
<th>Flash Point (℃)</th>
<th>Copper Corrosion (.evaluate)</th>
<th>Fat (%)</th>
<th>Chlorine (%)</th>
<th>Sulfur (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH CUTOL 27N</td>
<td>Suitable for precision processing such as broaching, deep hole boring, tapping, etc.</td>
<td>12.0</td>
<td>160</td>
<td>1b</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>DH CUTOL 115</td>
<td>Suitable for six-axis automatic lathe machining.</td>
<td>15.0</td>
<td>180</td>
<td>1b</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>DH CUTOL 100P</td>
<td>Exclusively CNC automatic lathe machining. For processing piston shaft of steel and non-ferrous metal. Excellent anti-scattering performance and prolonged tool life.</td>
<td>15.5</td>
<td>180</td>
<td>1a</td>
<td>C</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>DH CUTOL 200P</td>
<td></td>
<td>23.5</td>
<td>195</td>
<td>1a</td>
<td>C</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>DH CUTOL 213</td>
<td>Suitable for tapping, gun drilling, deep hole boring, etc.</td>
<td>16.0</td>
<td>160</td>
<td>4</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>DACUTOL PS-513N</td>
<td>Suitable for tapping, gun drilling, deep hole boring, etc.</td>
<td>16.0</td>
<td>160</td>
<td>4</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>DH CUTOL 216</td>
<td>Suitable for precision processing such as broaching, deep hole boring, tapping, etc.</td>
<td>12.0</td>
<td>148</td>
<td>4</td>
<td>C</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>DH CUTOL 243S</td>
<td>Suitable for difficult cutting, Excellent surface roughness and prolonged tool life.</td>
<td>19.0</td>
<td>148</td>
<td>4</td>
<td>C</td>
<td>C</td>
<td>B</td>
</tr>
<tr>
<td>DH CUTOL 72S</td>
<td>For processing gears of various steel. Less mist and odor, Excellent machinability.</td>
<td>27.0</td>
<td>202</td>
<td>1a</td>
<td>C</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>DH CUTOL 725H</td>
<td>Suitable for heavy-duty processing of various gears. Excellent machinability and surface roughness.</td>
<td>27.0</td>
<td>210</td>
<td>1a</td>
<td>C</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>OLEX CUTOL 323D</td>
<td>Suitable for automatic lathe machining of various materials. Excellent lubricity and mist-prevention.</td>
<td>27.0</td>
<td>204</td>
<td>1b</td>
<td>C</td>
<td>B</td>
<td>A</td>
</tr>
<tr>
<td>OLEX CUTOL 328</td>
<td>Suitable for tapping M/C only. Protracted life and improved productivity.</td>
<td>29.0</td>
<td>170</td>
<td>1a</td>
<td>C</td>
<td>C</td>
<td>A</td>
</tr>
<tr>
<td>OLEX CUTOL 435</td>
<td>Suitable for precision processing with excellent pressure resistance.</td>
<td>34.0</td>
<td>205</td>
<td>4</td>
<td>C</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

A: Below5% B:5-10% C:Above10% The above figures are mid-values.
### Solvent Diluted Rust Prevention Oil

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Viscosity (cSt)</th>
<th>Kinematic Viscosity (50°C)</th>
<th>Flash Point (°C)</th>
<th>Fire Type</th>
<th>Period of protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DARIRUST D-361D</td>
<td>Short-term rust control for various types of gears, bearings, bolts and nuts</td>
<td>NP-3</td>
<td>1.2</td>
<td>46</td>
<td>Oily</td>
<td>Indoor, 1 month</td>
</tr>
<tr>
<td>ANTRIRUST 332A</td>
<td>Excellent lubri-cide for the CT line dedicated anti-rust oil</td>
<td>NP-3</td>
<td>7.6</td>
<td>92</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
<tr>
<td>ANTRIRUST 10</td>
<td>Cleaning and short-term rust control for precision package/pack-dry type</td>
<td>Off-standard</td>
<td>Below 1.0</td>
<td>Room Temperature Room Temperature</td>
<td>Oily</td>
<td>—</td>
</tr>
<tr>
<td>ANTRIRUST 20</td>
<td>Excellent water replacement performance. Suitable for rust control after water freezing</td>
<td>Off-standard</td>
<td>Below 1.0</td>
<td>Room Temperature Room Temperature</td>
<td>Oily</td>
<td>—</td>
</tr>
<tr>
<td>ANTRIRUST 20(S)</td>
<td>Leaves no residue. Anti-consumption film is less sticky.</td>
<td>Off-standard</td>
<td>Below 1.0</td>
<td>Room Temperature Room Temperature</td>
<td>Oily</td>
<td>—</td>
</tr>
<tr>
<td>ANTRIRUST 25</td>
<td>Cleaning and short-term rust control for water/pack-drying</td>
<td>Off-standard</td>
<td>1.0</td>
<td>Room Temperature Room Temperature</td>
<td>Oily</td>
<td>Indoor, 3 month</td>
</tr>
<tr>
<td>ANTRIRUST 25B</td>
<td>Cleaning and short-term rust control for water/pack-drying</td>
<td>Off-standard</td>
<td>1.0</td>
<td>Room Temperature Room Temperature</td>
<td>Oily</td>
<td>Indoor, 5 month</td>
</tr>
<tr>
<td>ANTRIRUST 2105</td>
<td>Universal type. Suitable for general machinery parts.</td>
<td>NP-3</td>
<td>1.9</td>
<td>46</td>
<td>Oily</td>
<td>Indoor, 3 month</td>
</tr>
<tr>
<td>ANTRIRUST 210C</td>
<td>Excellent water replacement performance and rust-control performance.</td>
<td>NP-3</td>
<td>2.0</td>
<td>50</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
<tr>
<td>ANTRIRUST 220S</td>
<td>Rust control of general machinery parts</td>
<td>NP-3</td>
<td>1.9</td>
<td>46</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
<tr>
<td>ANTRIRUST 303D</td>
<td>Mid-term rust control for raw materials, bolts and nuts</td>
<td>NP-3</td>
<td>2.3</td>
<td>60</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
<tr>
<td>ANTRIRUST 303DA</td>
<td>General-purpose rust preventing oil with less color and excellent water replacement performance and rust prevention performance.</td>
<td>NP-3</td>
<td>2.2</td>
<td>60</td>
<td>Oily</td>
<td>Indoor, 3 month</td>
</tr>
<tr>
<td>ANTRIRUST 303DS</td>
<td>Long-term rust control for general machinery parts</td>
<td>NP-3</td>
<td>2.5</td>
<td>60</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
<tr>
<td>ANTRIRUST 303S</td>
<td>Long-term rust control of indoor articles</td>
<td>NP-3</td>
<td>3.2</td>
<td>58</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
<tr>
<td>ANTRIRUST 307</td>
<td>For the lubrication and rust control of hard steel works, forms coated films, excellent water replacement performance and degreasing performance.</td>
<td>NP-3</td>
<td>4.0</td>
<td>110</td>
<td>Oily</td>
<td>Indoor, 3 month</td>
</tr>
<tr>
<td>ANTRIRUST 330K</td>
<td>For the lubrication and rust control of hard steel works, forms coated films</td>
<td>NP-3</td>
<td>2.8</td>
<td>84</td>
<td>Oily</td>
<td>Indoor, 2 month</td>
</tr>
<tr>
<td>ANTRIRUST 330</td>
<td>Long-term rust control for raw materials, castings, forgings</td>
<td>NP-3</td>
<td>2.6</td>
<td>48</td>
<td>Oily</td>
<td>Indoor, 3 month</td>
</tr>
<tr>
<td>ANTRIRUST 330S</td>
<td>Excellent water replacement performance and rust prevention performance.</td>
<td>NP-3</td>
<td>4.0</td>
<td>82</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
<tr>
<td>ANTRIRUST 330H</td>
<td>Long-term rust control for various agricultural machinery parts</td>
<td>NP-3</td>
<td>6.6</td>
<td>68</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
<tr>
<td>ANTRIRUST 330Y</td>
<td>Long-term rust control for various agricultural machinery parts and automobile parts for export purpose</td>
<td>NP-3</td>
<td>4.6</td>
<td>72</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
<tr>
<td>TORIRUST GH</td>
<td>Anti-iron corrosive materials, castings, forgings, long-term anti-rust packaging for export.</td>
<td>NP-3</td>
<td>4.6</td>
<td>72</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
<tr>
<td>DARIRUST D-261D</td>
<td>Final rust control for outdoor machinery parts</td>
<td>NP-2</td>
<td>10.5</td>
<td>62</td>
<td>Oily</td>
<td>Indoor, 12 month</td>
</tr>
<tr>
<td>ANTRIRUST 720S</td>
<td>Long-term outdoor rust control for castings, forgings and packages for export</td>
<td>NP-19</td>
<td>—</td>
<td>Above 38</td>
<td>Waxy</td>
<td>Indoor, 12 month</td>
</tr>
<tr>
<td>ANTRIRUST 720</td>
<td>Long-term outdoor rust control for castings, forgings and packages for export</td>
<td>NP-19</td>
<td>—</td>
<td>Above 38</td>
<td>Waxy</td>
<td>Indoor, 12 month</td>
</tr>
</tbody>
</table>

### Rust Preventing Lubricant

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Application</th>
<th>Viscosity (cSt)</th>
<th>Kinematic Viscosity (50°C)</th>
<th>Flash Point (°C)</th>
<th>Fire Type</th>
<th>Period of protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>TORIRUST RM-900</td>
<td>Lubrication + Rust Control. For general machinery parts, Rust pickling oil for steel sheet</td>
<td>NP-9</td>
<td>10.0</td>
<td>162</td>
<td>Oily</td>
<td>Indoor, 3 month</td>
</tr>
<tr>
<td>OLEX COAT 2017</td>
<td>Lubrication + Rust Control for bearings</td>
<td>NP-8</td>
<td>18.5</td>
<td>150</td>
<td>Oily</td>
<td>Indoor, 6 month</td>
</tr>
</tbody>
</table>

### Volatile Rust Preventing Oil

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Application</th>
<th>Viscosity (cSt)</th>
<th>Kinematic Viscosity (50°C)</th>
<th>Flash Point (°C)</th>
<th>Fire Type</th>
<th>Period of protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTRIRUST 1011</td>
<td>Suitable for controlling rust in Engine / Fuel System, Gear Box, especially closed areas or the areas which are hard to access.</td>
<td>NP-20-1</td>
<td>12.3</td>
<td>130</td>
<td>Oily</td>
<td>—</td>
</tr>
<tr>
<td>OLEX COAT 1015</td>
<td>—</td>
<td>NP-20-1</td>
<td>5.12</td>
<td>112</td>
<td>Oily</td>
<td>—</td>
</tr>
</tbody>
</table>

### Water Soluble Rust Preventing Oil

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Application</th>
<th>Concentration (g/L)</th>
<th>pH</th>
<th>Appearance</th>
<th>Film Type</th>
<th>Period of protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTRIRUST 20W</td>
<td>Suitable for controlling rust in Engine / Fuel System, Gear Box, especially closed areas or the areas which are hard to access.</td>
<td>3–10</td>
<td>10.4</td>
<td>Lemon yellow, Transparent</td>
<td>—</td>
<td>Indoor, Inter Process</td>
</tr>
<tr>
<td>ANTRIRUST 300X</td>
<td>Water soluble rust preventives. Suitable for rust control between processes and water pressure test. Rust prevention performance is maintained at high temperatures.</td>
<td>3–10</td>
<td>10.5</td>
<td>Lemon yellow, Transparent</td>
<td>—</td>
<td>Indoor, Inter Process</td>
</tr>
<tr>
<td>OLEX COAT 300</td>
<td>Rust control after water-soluble process.</td>
<td>3–10</td>
<td>9.8</td>
<td>Light yellow, Transparent</td>
<td>—</td>
<td>Indoor, Inter Process</td>
</tr>
<tr>
<td>OLEX COAT 200H</td>
<td>Rust control after water-soluble process. Rust preventing additives for water soluble processing oil. Short-term rust control for indoor articles. Excellent rust prevention performance with hard water.</td>
<td>3–10</td>
<td>10.0</td>
<td>Yellow, Transparent</td>
<td>—</td>
<td>Indoor, Inter Process</td>
</tr>
<tr>
<td>TORIRUST SW-1</td>
<td>Emulsion type water soluble rust preventing lubricant. Suitable for the rust control of various machinery parts, bolts and nuts.</td>
<td>10–30</td>
<td>7.5</td>
<td>Milky white emulsion</td>
<td>Oily</td>
<td>Indoor, 3 months</td>
</tr>
<tr>
<td>OLEX COAT 102</td>
<td>Suitable for the rust control after the manufacture of pipes. Less emulsion phenomenon after the drying of film.</td>
<td>20–30</td>
<td>7.6</td>
<td>Milky white emulsion</td>
<td>Oily</td>
<td>Indoor, 3 months</td>
</tr>
</tbody>
</table>

The above figures are mid-values.
**Product Name** Features and Applications

**Cold Type Quenching Oil**

- **MARTEMPER B-52**
  - Sufficient hardenability
  - Excellent thermal stability, brightness and quenching property below 100℃.
  - Since there is no risk of deformation or crack during quenching, this product is used for bearing, gears, machine and automobile parts.
  - Kinematic viscosity: 21.0
  - Flash Point: 200
  - Operation Temperature: 40℃
  - Characteristic Temperature: 800~400℃ (Cooling Seconds: 260)

- **MARTEMPER B-56**
  - Sufficient hardenability
  - Excellent thermal stability, brightness and quenching property below 100℃.
  - Since there is no risk of deformation or crack during quenching, this product is used for bearing, gears, machine and automobile parts.
  - Kinematic viscosity: 21.5
  - Flash Point: 198
  - Operation Temperature: 40℃
  - Characteristic Temperature: 800~400℃ (Cooling Seconds: 260)

- **MARTEMPER B-56D**
  - Sufficient hardenability
  - Excellent thermal stability, brightness and quenching property below 100℃.
  - Since there is no risk of deformation or crack during quenching, this product is used for bearing, gears, machine and automobile parts.
  - Kinematic viscosity: 32.0
  - Flash Point: 202
  - Operation Temperature: 40℃
  - Characteristic Temperature: 800~400℃ (Cooling Seconds: 260)

**Semi Type Quenching Oil**

- **MARTEMPER B-90**
  - Sufficient hardenability
  - Excellent thermal oxidation stability at high temperature and there is no risk of deformation or crack.
  - Used for cast iron, general carbon steel or alloy steel carburized products.
  - Kinematic viscosity: 270
  - Flash Point: 210
  - Operation Temperature: 40℃
  - Characteristic Temperature: 800~400℃ (Cooling Seconds: 260)

- **MARTEMPER B-90H**
  - Sufficient hardenability
  - Excellent thermal oxidation stability at high temperature and there is no risk of deformation or crack.
  - Used for cast iron, general carbon steel or alloy steel carburized products.
  - Kinematic viscosity: 230
  - Flash Point: 124
  - Operation Temperature: 40℃
  - Characteristic Temperature: 800~400℃ (Cooling Seconds: 260)

- **MARTEMPER B-154**
  - Sufficient hardenability
  - Excellent thermal oxidation stability at high temperature and there is no risk of deformation or crack.
  - Used for cast iron, general carbon steel or alloy steel carburized products.
  - Kinematic viscosity: 485
  - Flash Point: 300
  - Operation Temperature: 40℃
  - Characteristic Temperature: 800~400℃ (Cooling Seconds: 260)

**Hot Type Quenching Oil**

- **MARTEMPER B-90**
  - Sufficient hardenability
  - Excellent thermal oxidation stability at high temperature and there is no risk of deformation or crack.
  - Used for cast iron, general carbon steel or alloy steel carburized products.
  - Kinematic viscosity: 270
  - Flash Point: 210
  - Operation Temperature: 40℃
  - Characteristic Temperature: 800~400℃ (Cooling Seconds: 260)

- **MARTEMPER B-90H**
  - Sufficient hardenability
  - Excellent thermal oxidation stability at high temperature and there is no risk of deformation or crack.
  - Used for cast iron, general carbon steel or alloy steel carburized products.
  - Kinematic viscosity: 230
  - Flash Point: 124
  - Operation Temperature: 40℃
  - Characteristic Temperature: 800~400℃ (Cooling Seconds: 260)

- **MARTEMPER B-154**
  - Sufficient hardenability
  - Excellent thermal oxidation stability at high temperature and there is no risk of deformation or crack.
  - Used for cast iron, general carbon steel or alloy steel carburized products.
  - Kinematic viscosity: 485
  - Flash Point: 300
  - Operation Temperature: 40℃
  - Characteristic Temperature: 800~400℃ (Cooling Seconds: 260)

**Water-Soluble Quenching Oil**

- **SOLUBLE QUENCH NT-7**
  - Water-soluble quenching coolant containing PAG as main component. Used for various purposes from high-frequency quenching and normal quenching.
  - Excellent crack- and deformation preventing ability.
  - Specific Gravity: 1.05
  - Kinematic Viscosity: 450
  - PH: 10.1
  - Operational Concentration (%): 5~10

- **SOLUBLE QUENCH NT-3**
  - All-purpose water-soluble coolant for quenching.
  - Can be used for various types of materials from high-frequency to material quenching.
  - Specific Gravity: 1.08
  - Kinematic Viscosity: 590
  - PH: 10.4
  - Operational Concentration (%): 5~15

- **SOLUBLE QUENCH DS**
  - Sub-quenching of materials and parts heavy alloy.
  - High-frequency quenching for steel and high steel alloys.
  - Specific Gravity: 1.08
  - Kinematic Viscosity: 590
  - PH: 10.4
  - Operational Concentration (%): 5~15

- **SOLUBLE QUENCH TY-300**
  - All-purpose water-soluble coolant for quenching. Can be used for various types of materials from high-frequency to material quenching.
  - Excellent crack resistance at low concentration compared to competent products.
  - Specific Gravity: 1.06
  - Kinematic Viscosity: 450
  - PH: 10.0
  - Operational Concentration (%): 5~15

The above figures are mid-values.
Metal Forming Fluid

**Dry Type Punching Oils (for Heat Exchanger Aluminum Fin)**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Specific Gravity (15℃)</th>
<th>Viscosity (40℃)</th>
<th>Flash Point (℃)</th>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH PUNCHING OIL G-1(TH)</td>
<td>Product approved by company K. for lubricity.</td>
<td>0.98</td>
<td>1.4</td>
<td>54</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH PUNCHING OIL 105</td>
<td>Excellent hydrophilic performance.</td>
<td>0.76</td>
<td>1.4</td>
<td>54</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH PUNCHING OIL 556A</td>
<td>Product approved by company K. for lubricity.</td>
<td>0.76</td>
<td>1.4</td>
<td>54</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH DRAW H-7A</td>
<td>Punching oil for high pitch fins. Excellent lubricity.</td>
<td>0.77</td>
<td>1.6</td>
<td>58</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH PUNCHING OIL 23H</td>
<td>High lubricity punching oil. Suitable for industrial heat exchangers.</td>
<td>0.80</td>
<td>2.6</td>
<td>110</td>
<td>Colorless, Transparent</td>
</tr>
</tbody>
</table>

**Cold Forging Lubricants**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Specific Gravity (15℃)</th>
<th>Viscosity (40℃)</th>
<th>Flash Point (℃)</th>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH DRAW RP-60CF</td>
<td>Chlorine-free forming oil for cold forging.</td>
<td>0.90</td>
<td>37</td>
<td>230</td>
<td>Yellowish Brown</td>
</tr>
<tr>
<td>DH HEADING OIL 20N</td>
<td>Forming oil for the cold forging of various bolts and nuts. Excellent chip separation ability</td>
<td>0.89</td>
<td>28</td>
<td>200</td>
<td>Colorless</td>
</tr>
<tr>
<td>DH FORMER OIL 24</td>
<td>Forming oil for the cold forging. Prolonged tool life.</td>
<td>0.88</td>
<td>25</td>
<td>170</td>
<td>Colorless</td>
</tr>
<tr>
<td>DH DRAW 100H</td>
<td>Forming oil for the cold forging. Prolonged tool life.</td>
<td>0.92</td>
<td>35</td>
<td>190</td>
<td>Colorless</td>
</tr>
<tr>
<td>DH DRAW 100H</td>
<td>Forming oil for the cold forging. Prolonged tool life.</td>
<td>0.93</td>
<td>40</td>
<td>220</td>
<td>Colorless</td>
</tr>
<tr>
<td>DH HEADING OIL 50</td>
<td>Forming oil for forming for Middle to large sized bolts. Excellent pressure resistance.</td>
<td>0.90</td>
<td>40</td>
<td>220</td>
<td>Colorless</td>
</tr>
<tr>
<td>DH HEADING OIL 50H</td>
<td>Forming oil for forming for Middle to large sized bolts. Excellent pressure resistance.</td>
<td>0.91</td>
<td>55</td>
<td>200</td>
<td>Colorless</td>
</tr>
<tr>
<td>DH HEADING OIL 70D</td>
<td>Forming oil for the cold forging of various bolts. Excellent chip separation ability</td>
<td>0.90</td>
<td>30</td>
<td>230</td>
<td>Colorless</td>
</tr>
</tbody>
</table>

**Punching Oil (Steel and Non-ferrous metal)**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Viscosity (40℃)</th>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH DRAW 800LB</td>
<td>Quick-drying punching oil for leaving no residues.</td>
<td>1.0</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH DRAW 800H</td>
<td>High-speed working punching oil for large motor core. Excellent lubricity.</td>
<td>1.5</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH DRAW 23HH/H</td>
<td>Punching oil for motor core. Leaving no residues.</td>
<td>1.4</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH DRAW 2300GA</td>
<td>Punching oil for motor core. Excellent rust resistance.</td>
<td>1.4</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH PUNCHING OIL S</td>
<td>Punching oil for various non-ferrous metals. Excellent lubricity and drying ability.</td>
<td>1.4</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH DRAW H-7B</td>
<td>High lubricity punching oil for various types of refrigerations. Suitable for high pitch</td>
<td>1.7</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH DRAW 33L</td>
<td>Punching oil for the lead-frame of semiconductor. Excellent detergency.</td>
<td>2.4</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH DRAW 33D</td>
<td>Punching oil for the lead-frame of semiconductor. Excellent lubrication and high viscosity.</td>
<td>5.8</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH DRAW 33LD</td>
<td>Punching oil for the lead-frame of semiconductor. Excellent lubrication and high viscosity.</td>
<td>3.2</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH DRAW 173A</td>
<td>Punching oil for non-ferrous metals. Excellent detergency, drying ability and process improving performance</td>
<td>1.4</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH DRAW H-2</td>
<td>Punching oil for various non-ferrous metals, PET materials.</td>
<td>1.4</td>
<td>Colorless, Transparent</td>
</tr>
</tbody>
</table>

**Press. Drawing Oil**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Specific Gravity (15℃)</th>
<th>Viscosity (40℃)</th>
<th>Flash Point (℃)</th>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH DRAW AL-2KNET</td>
<td>Punching and pressing oil for various non-ferrous metals. Suitable for the high-speed processing of terminal parts</td>
<td>0.83</td>
<td>3.0</td>
<td>1a</td>
<td>Colorless</td>
</tr>
<tr>
<td>DH DRAW AL-3</td>
<td>Punching and pressing oil for various non-ferrous metals.</td>
<td>0.87</td>
<td>8</td>
<td>1a</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH DRAW AL-4</td>
<td>Improved AL-lubricity.</td>
<td>0.87</td>
<td>8.5</td>
<td>1a</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH PRESS 15T</td>
<td>Press oil for aluminum conductor case. Excellent filtration.</td>
<td>0.87</td>
<td>15</td>
<td>1a</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH PRESS FB-100H</td>
<td>Chlorine-free blanking oil. Excellent extreme-pressure resistance and lubricity.</td>
<td>0.96</td>
<td>190</td>
<td>4c</td>
<td>Dark brown</td>
</tr>
<tr>
<td>DH DRAW 206A(TH)</td>
<td>Chrome-free deep drawing oil. Excellent extreme-pressure resistance and rust prevention ability</td>
<td>0.91</td>
<td>90</td>
<td>1b</td>
<td>Brown</td>
</tr>
<tr>
<td>OLEX DRAW 700</td>
<td>High lubricity drawing oil for SUS. Excellent machinability.</td>
<td>1.02</td>
<td>92</td>
<td>4c</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH PRESS 1150H-4</td>
<td>Electrolytic condenser case processing oil. Excellent lubricity.</td>
<td>0.98</td>
<td>140</td>
<td>1a</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH PRESS 8505A</td>
<td>Calibrating oil for various ferrous products. Excellent lubricity and blackening treatment ability</td>
<td>0.37</td>
<td>5</td>
<td>1b</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>OLEX FIN 536</td>
<td>Forming oil for the turning of heat exchanger aluminum.</td>
<td>0.91</td>
<td>30</td>
<td>220</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH PRESS RF-40C</td>
<td>Drawing oil for aluminum secondary battery can.</td>
<td>0.89</td>
<td>100</td>
<td>1a</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH DRAW 900C</td>
<td>Drawing oil for circular battery can. Excellent detergency.</td>
<td>1.00</td>
<td>65</td>
<td>1a</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH PRESS EV-903</td>
<td>Drawing oil for secondary automobile battery can.</td>
<td>0.90</td>
<td>100</td>
<td>1a</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH DRAW 206H</td>
<td>Deep drawing for various steels. Excellent resistance against extreme-pressure.</td>
<td>1.03</td>
<td>200</td>
<td>4c</td>
<td>Dark brown</td>
</tr>
<tr>
<td>DH DRAW 206A</td>
<td>Excellent extreme-pressure resistance and lubricity. It is able to select oils, which are according to the difficulty of works. It has oil stain prevention and rust prevention prevent.</td>
<td>1.00</td>
<td>80</td>
<td>4c</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH PRESS 550</td>
<td>Deep drawing for various steels. Excellent resistance against extreme-pressure.</td>
<td>1.02</td>
<td>25</td>
<td>4c</td>
<td>Lemon yellow</td>
</tr>
<tr>
<td>DH PRESS 50EX</td>
<td></td>
<td>0.89</td>
<td>45</td>
<td>1b</td>
<td>Dark brown</td>
</tr>
</tbody>
</table>

**Pipe Manufacturing Oil**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Applications</th>
<th>Specific Gravity (15℃)</th>
<th>Viscosity (40℃)</th>
<th>Viscosity (100℃)</th>
<th>Solubility</th>
<th>pH</th>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DARROLL SF-22K</td>
<td>Forming oil for various pipes. Excellent emulsification and solubility.</td>
<td>0.91</td>
<td>9.5</td>
<td>9.5</td>
<td>40%</td>
<td>Brown</td>
<td>Colorless, Transparent</td>
</tr>
<tr>
<td>DH ROLL 20</td>
<td>Forming oil for steel pipes. Excellent corrosion and rust prevention ability.</td>
<td>0.91</td>
<td>9.5</td>
<td>9.5</td>
<td>40%</td>
<td>Brown</td>
<td>Colorless, Transparent</td>
</tr>
</tbody>
</table>

www.dhchem.co.kr
## Universal anti-wear hydraulic oil

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features</th>
<th>Specific Gravity (15/4℃)</th>
<th>Kinematic Viscosity (40℃)</th>
<th>Viscosity Index (Ⅵ)</th>
<th>Flash Point (℃)</th>
<th>Color (APHA)</th>
<th>Pour Point (℃)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH HYDRO LUBE 32</td>
<td>• Excellent oxidation stability</td>
<td>0.88</td>
<td>32.0</td>
<td>110</td>
<td>216</td>
<td>1.0</td>
<td>-37.5</td>
</tr>
<tr>
<td>DH HYDRO LUBE 46</td>
<td>• Excellent rust prevention and wear resistance</td>
<td>0.87</td>
<td>46.0</td>
<td>108</td>
<td>224</td>
<td>1.0</td>
<td>-39.0</td>
</tr>
<tr>
<td>DH HYDRO LUBE 68</td>
<td>• Excellent lubricity</td>
<td>0.87</td>
<td>68.0</td>
<td>107</td>
<td>228</td>
<td>1.5</td>
<td>-36.0</td>
</tr>
<tr>
<td>DH HYDRO LUBE 100</td>
<td>• Excellent gas prevention, bubble prevention and water separation</td>
<td>0.88</td>
<td>100.0</td>
<td>105</td>
<td>232</td>
<td>1.5</td>
<td>-37.5</td>
</tr>
<tr>
<td>DH HYDRO LUBE 150</td>
<td>• Excellent friction</td>
<td>0.89</td>
<td>150.0</td>
<td>103</td>
<td>234</td>
<td>1.5</td>
<td>-36.0</td>
</tr>
</tbody>
</table>

## High-quality anti-wear hydraulic oil

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features</th>
<th>Specific Gravity (15/4℃)</th>
<th>Kinematic Viscosity (40℃)</th>
<th>Viscosity Index (Ⅵ)</th>
<th>Flash Point (℃)</th>
<th>Color (APHA)</th>
<th>Pour Point (℃)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH SUPER HYDRO LUBE 32</td>
<td>• Excellent oxidation stability and thermal stability, prolongs the life of product and enables the product for a long-term use</td>
<td>0.87</td>
<td>32.0</td>
<td>110</td>
<td>216</td>
<td>1.0</td>
<td>-37.5</td>
</tr>
<tr>
<td>DH SUPER HYDRO LUBE 46</td>
<td>• Excellent rust and corrosion prevention</td>
<td>0.89</td>
<td>46.0</td>
<td>108</td>
<td>224</td>
<td>1.0</td>
<td>-39.0</td>
</tr>
<tr>
<td>DH SUPER HYDRO LUBE 68</td>
<td>• Excellent lubricity and demulsibility</td>
<td>0.88</td>
<td>68.0</td>
<td>107</td>
<td>228</td>
<td>1.5</td>
<td>-36.0</td>
</tr>
<tr>
<td>DH SUPER HYDRO LUBE 100</td>
<td>• Excellent gas prevention, bubble prevention and water separation</td>
<td>0.89</td>
<td>100.0</td>
<td>105</td>
<td>230</td>
<td>1.5</td>
<td>-37.5</td>
</tr>
<tr>
<td>DH SUPER HYDRO LUBE 150</td>
<td>• Excellent friction</td>
<td>0.89</td>
<td>150.0</td>
<td>103</td>
<td>232</td>
<td>1.5</td>
<td>-36.0</td>
</tr>
</tbody>
</table>

## Industrial Gear Oil

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features</th>
<th>Specific Gravity (15/4℃)</th>
<th>Kinematic Viscosity (40℃)</th>
<th>Viscosity Index (Ⅵ)</th>
<th>Flash Point (℃)</th>
<th>Color (APHA)</th>
<th>Pour Point (℃)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH GEAR OIL EP-68</td>
<td>• Strong oil film</td>
<td>0.89</td>
<td>69.0</td>
<td>108</td>
<td>220</td>
<td>1.5</td>
<td>-32.5</td>
</tr>
<tr>
<td>DH GEAR OIL EP-100</td>
<td>• Excellent wear separating ability</td>
<td>0.89</td>
<td>99.9</td>
<td>107</td>
<td>222</td>
<td>1.5</td>
<td>-32.5</td>
</tr>
<tr>
<td>DH GEAR OIL EP-150</td>
<td>• Excellent rust and corrosion prevention for all types of metals</td>
<td>0.89</td>
<td>151.0</td>
<td>104</td>
<td>226</td>
<td>1.5</td>
<td>-30.0</td>
</tr>
<tr>
<td>DH GEAR OIL EP-220</td>
<td>• Excellent oxidation stability and thermal stability</td>
<td>0.89</td>
<td>222.2</td>
<td>104</td>
<td>230</td>
<td>1.5</td>
<td>-27.5</td>
</tr>
<tr>
<td>DH GEAR OIL EP-320</td>
<td>• High viscosity index and excellent bubble preventing ability</td>
<td>0.90</td>
<td>320.1</td>
<td>102</td>
<td>240</td>
<td>1.5</td>
<td>-22.5</td>
</tr>
<tr>
<td>DH GEAR OIL EP-460</td>
<td>• Excellent viscosity index and excellent bubble preventing ability</td>
<td>0.90</td>
<td>458.7</td>
<td>103</td>
<td>250</td>
<td>1.5</td>
<td>-22.5</td>
</tr>
<tr>
<td>DH GEAR OIL EP-680</td>
<td>• Excellent demulsibility</td>
<td>0.91</td>
<td>679.0</td>
<td>101</td>
<td>312</td>
<td>1.5</td>
<td>-20.0</td>
</tr>
</tbody>
</table>

## Machine Oil

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features</th>
<th>Specific Gravity (15/4℃)</th>
<th>Kinematic Viscosity (40℃)</th>
<th>Viscosity Index (Ⅵ)</th>
<th>Flash Point (℃)</th>
<th>Color (APHA)</th>
<th>Pour Point (℃)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACHINE OIL 10</td>
<td>• Maintains appropriate viscosity at the time of low-temperature startup and during high-temperature operation</td>
<td>0.87</td>
<td>10.1</td>
<td>108</td>
<td>100</td>
<td>1.0</td>
<td>-17.5</td>
</tr>
<tr>
<td>MACHINE OIL 22</td>
<td>• Excellent oxidation stability and thermal stability, prolongs the life of product and enables the product for a long-term use</td>
<td>0.89</td>
<td>22.4</td>
<td>105</td>
<td>206</td>
<td>1.0</td>
<td>-17.5</td>
</tr>
<tr>
<td>MACHINE OIL 32</td>
<td>• Excellent rust and corrosion prevention for all types of metals</td>
<td>0.86</td>
<td>32.3</td>
<td>105</td>
<td>200</td>
<td>1.5</td>
<td>-15.0</td>
</tr>
<tr>
<td>MACHINE OIL 46</td>
<td>• Excellent lubricity and demulsibility</td>
<td>0.87</td>
<td>46.2</td>
<td>103</td>
<td>206</td>
<td>1.5</td>
<td>-15.0</td>
</tr>
<tr>
<td>MACHINE OIL 68</td>
<td>• Excellent oxidation stability and thermal stability, prolongs the life of product and enables the product for a long-term use</td>
<td>0.87</td>
<td>68.1</td>
<td>103</td>
<td>216</td>
<td>1.5</td>
<td>-12.5</td>
</tr>
<tr>
<td>MACHINE OIL 100</td>
<td>• Excellent rust prevention and wear prevention</td>
<td>0.89</td>
<td>99.8</td>
<td>102</td>
<td>232</td>
<td>1.5</td>
<td>-12.5</td>
</tr>
<tr>
<td>MACHINE OIL 150</td>
<td>• Excellent rust and corrosion prevention for all types of metals</td>
<td>0.89</td>
<td>149.9</td>
<td>100</td>
<td>232</td>
<td>2.0</td>
<td>-12.5</td>
</tr>
<tr>
<td>MACHINE OIL 220</td>
<td>• Excellent friction and wear resistance properties, prolongs the life of product and enables the product for a long-term use</td>
<td>0.89</td>
<td>321.0</td>
<td>100</td>
<td>236</td>
<td>2.0</td>
<td>-10.0</td>
</tr>
<tr>
<td>MACHINE OIL 320</td>
<td>• Excellent rust prevention and wear prevention</td>
<td>0.90</td>
<td>330.0</td>
<td>100</td>
<td>274</td>
<td>2.5</td>
<td>-10.0</td>
</tr>
<tr>
<td>MACHINE OIL 460</td>
<td>• Excellent rust prevention and wear prevention</td>
<td>0.90</td>
<td>452.0</td>
<td>100</td>
<td>330</td>
<td>3.0</td>
<td>-7.5</td>
</tr>
</tbody>
</table>

## Machine Oil (Slideway-oil)

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features</th>
<th>Specific Gravity (15/4℃)</th>
<th>Kinematic Viscosity (40℃)</th>
<th>Viscosity Index (Ⅵ)</th>
<th>Flash Point (℃)</th>
<th>Color (APHA)</th>
<th>Pour Point (℃)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH HEAVY HYDRO LUBE 32</td>
<td>• Excellent oxidation stability</td>
<td>0.86</td>
<td>31.9</td>
<td>108</td>
<td>230</td>
<td>1.0</td>
<td>-20.0</td>
</tr>
<tr>
<td>DH HEAVY HYDRO LUBE 46</td>
<td>• Excellent rust and wear prevention</td>
<td>0.86</td>
<td>46.1</td>
<td>105</td>
<td>232</td>
<td>1.0</td>
<td>-22.5</td>
</tr>
<tr>
<td>DH HEAVY HYDRO LUBE 68</td>
<td>• Excellent demulsibility</td>
<td>0.87</td>
<td>68.3</td>
<td>105</td>
<td>240</td>
<td>1.0</td>
<td>-22.5</td>
</tr>
</tbody>
</table>

## Slideway oil

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features</th>
<th>Specific Gravity (15/4℃)</th>
<th>Kinematic Viscosity (40℃)</th>
<th>Viscosity Index (Ⅵ)</th>
<th>Flash Point (℃)</th>
<th>Color (APHA)</th>
<th>Pour Point (℃)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH WAY LUBRICANT-32</td>
<td>• Excellent stick slip resistance and adhereness</td>
<td>0.88</td>
<td>32.1</td>
<td>108</td>
<td>216</td>
<td>1.1</td>
<td>-32.5</td>
</tr>
<tr>
<td>DH WAY LUBRICANT-68</td>
<td>• Excellent load transfer ability and oil film strength</td>
<td>0.88</td>
<td>68.3</td>
<td>105</td>
<td>238</td>
<td>1.1</td>
<td>-32.5</td>
</tr>
</tbody>
</table>
## Metal Cleaners

### Cleaning and Intermediary Corrosion Control

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Appearance &amp; Features</th>
<th>Application</th>
<th>How to use</th>
<th>Concentration (%)</th>
<th>Temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DACLAINER R-208A-500</td>
<td>Transparent</td>
<td>Cleaning</td>
<td>Spray</td>
<td>10.2</td>
<td>40~60 SPRAY/V</td>
</tr>
<tr>
<td>DACLAINER R-630-DFX</td>
<td>Lemon yellow and</td>
<td>Cleaning</td>
<td>Spray</td>
<td>9.5</td>
<td>40~60 SPRAY/V</td>
</tr>
<tr>
<td>DACLAINER R-313DC</td>
<td>Transparent</td>
<td>Cleaning</td>
<td>Spray</td>
<td>9.5</td>
<td>40~60 SPRAY/V</td>
</tr>
<tr>
<td>DH CLEANER R-208A-60H</td>
<td>Transparent</td>
<td>Cleaning</td>
<td>Spray</td>
<td>9.6</td>
<td>40~60 SPRAY/V</td>
</tr>
<tr>
<td>DH CLEANER R-208A-70H</td>
<td>Transparent</td>
<td>Cleaning</td>
<td>Spray</td>
<td>9.7</td>
<td>40~60 SPRAY/V</td>
</tr>
<tr>
<td>DACLAINER S-105</td>
<td>Yellow and Transparent</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>9.5</td>
<td>40~60 SPRAY/V</td>
</tr>
<tr>
<td>DACLAINER R-200</td>
<td>Lemon yellow and</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>9.3</td>
<td>40~70 SPRAY/V</td>
</tr>
<tr>
<td>DACLAINER R-200</td>
<td>Transparent</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>9.5</td>
<td>40~70 SPRAY/V</td>
</tr>
<tr>
<td>DACLAINER R-252</td>
<td>Lemon yellow and</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>9.1</td>
<td>10~50 SPRAY/V</td>
</tr>
<tr>
<td>DH CLEAN E</td>
<td>Yellow and Transparent</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>9.3</td>
<td>5~5 SPRAY/V</td>
</tr>
<tr>
<td>DH CLEAN ALG</td>
<td>Yellow and Transparent</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>8.5</td>
<td>3~10 SPRAY/V</td>
</tr>
<tr>
<td>DH CLEAN 1000SRL</td>
<td>Colorless and</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>9.2</td>
<td>3~10 SPRAY/V</td>
</tr>
<tr>
<td>DH CLEAN 175ALH</td>
<td>Colorless and</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>12.0</td>
<td>3~10 SPRAY/V</td>
</tr>
<tr>
<td>CHEMILITE CP-40JT CONC</td>
<td>Yellow and Transparent</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>9.5</td>
<td>0~90 SPRAY/V</td>
</tr>
<tr>
<td>CHEMILITE M-1 CONC</td>
<td>Lemon yellow</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>8.6</td>
<td>0~70 SPRAY/V</td>
</tr>
<tr>
<td>CHEMILITE LE-2000 CONC</td>
<td>Lemon yellow and</td>
<td>Cleaning</td>
<td>Room Temp.</td>
<td>8.4</td>
<td>0~90 SPRAY/V</td>
</tr>
</tbody>
</table>

### Neutral Metal Cleaner

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Application</th>
<th>Concentration (%)</th>
<th>Temperature (°C)</th>
<th>How to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>DACLAINER R-530</td>
<td>Water soluble metal</td>
<td>7.6</td>
<td>3~10</td>
<td>Room Temp.</td>
</tr>
<tr>
<td>DACLAINER R-530L</td>
<td>Water soluble metal</td>
<td>7.6</td>
<td>3~10</td>
<td>Room Temp.</td>
</tr>
</tbody>
</table>

### Chloride-based Metal Cleaner

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Application</th>
<th>Concentration (%)</th>
<th>Temperature (°C)</th>
<th>How to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH SUPER CLEAN 60</td>
<td>There is no flash point.</td>
<td>42</td>
<td>Room Temp.</td>
<td>Vapor, Ultrasonic</td>
</tr>
<tr>
<td>DH SUPER CLEAN 70</td>
<td>There is no flash point.</td>
<td>87</td>
<td>Room Temp.</td>
<td>Vapor, Ultrasonic</td>
</tr>
</tbody>
</table>

### Hydrocarbon-based Metal Cleaner

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features and Application</th>
<th>Concentration (%)</th>
<th>Temperature (°C)</th>
<th>How to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH CLEAN 700</td>
<td>Cleaners and Transparent</td>
<td>60</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>DH CLEAN 609</td>
<td>Less harmful to human</td>
<td>40</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>DH CLEAN 609H</td>
<td>Excellent drying ability</td>
<td>54</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>DH CLEAN 610A</td>
<td>Excellent drying ability</td>
<td>58</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>DH CLEAN 610K</td>
<td>Excellent drying ability</td>
<td>64</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>DH CLEAN 640</td>
<td>Excellent drying ability</td>
<td>48</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>OLEX CLEAN 77</td>
<td>Excellent drying speed</td>
<td>87</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>DH CLEAN 50</td>
<td>Excellent drying speed</td>
<td>Below 10</td>
<td>Caution for flammables</td>
<td>Dipping</td>
</tr>
<tr>
<td>OLEX CLEAN 630</td>
<td>Excellent drying ability</td>
<td>34</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>DH CLEAN 600</td>
<td>Excellent drying ability</td>
<td>40</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>DH CLEAN 600H</td>
<td>Excellent drying ability</td>
<td>51</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>OLEX CLEAN 660</td>
<td>Excellent drying ability</td>
<td>52</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
<tr>
<td>DH CLEAN 210</td>
<td>Excellent drying ability</td>
<td>94</td>
<td>Room Temp.</td>
<td>Dipping</td>
</tr>
</tbody>
</table>

The above figures are mid-values.
---

**Lubricants for cold forging-One component (Aqualub)**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFW-3</td>
<td>Excellent film drying ability and lubricity</td>
<td>Cold forging of gears and shafts</td>
</tr>
<tr>
<td>CFW-39</td>
<td>Excellent film drying ability and lubricity</td>
<td>Cold forging of gears, shafts and CVJ</td>
</tr>
<tr>
<td>CFW-97J</td>
<td>High-lubricity, high-anticorrosion ability, less coating weight</td>
<td>Cold forging of gears, shafts and CVJ</td>
</tr>
<tr>
<td>A-110</td>
<td>High-lubricity</td>
<td>Aluminum alloys, general machining, impact pressess</td>
</tr>
<tr>
<td>A-1245</td>
<td>High-lubricity</td>
<td>Aluminum alloys, general machining, impact pressess</td>
</tr>
</tbody>
</table>

---

**Lubricant for aluminum cold rolling**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROLL 700</td>
<td>Lubricant for cold rolling. Used with additives</td>
<td></td>
</tr>
<tr>
<td>ACR 700</td>
<td>Additives for rolling, Excellent lubricity and anti-rust ability</td>
<td></td>
</tr>
</tbody>
</table>

---

**Lubricant for warm/hot forging**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Type</th>
<th>Features</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOT AQUA LUBE # 300TK</td>
<td>Soluble</td>
<td>Warm/hot forging, hot former, High-temperature adhesion, high lubricity, cooling ability, excellent oil-water separation</td>
<td>Constant velocity joints and various types of shafts</td>
</tr>
<tr>
<td>HOT AQUA LUBE # 300NVS</td>
<td>Soluble</td>
<td>Oil well tubing, up SET, suitable for non-drying processing, low-temperature adhesion, excellent lubricity</td>
<td>Gears and constant velocity joints</td>
</tr>
<tr>
<td>HOT AQUA LUBE # 270</td>
<td>Soluble</td>
<td>Warm/hot forging, high-temperature adhesion, high lubricity, cooling ability, excellent oil-water separation</td>
<td>Gears and engine valves</td>
</tr>
<tr>
<td>HOT AQUA LUBE # S-30</td>
<td>Soluble</td>
<td>Hot forging for engine vacuum tubes, excellent lubricity, Alkali metal-free</td>
<td>Engine valves, etc.</td>
</tr>
</tbody>
</table>

---

**Aluminum Parting Agent**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Type</th>
<th>Features</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLEX AQUA LUBE 7710</td>
<td>Soluble</td>
<td>General die-casting, high-temperature adhesion, drying ability, lubricity, excellent moldability</td>
<td>Milk-white emission</td>
</tr>
<tr>
<td>HOT AQUA LUBE AL-300</td>
<td>Soluble</td>
<td>General die-casting, high-temperature adhesion, drying ability, lubricity, excellent moldability</td>
<td>Non-volatile content(%): 30</td>
</tr>
<tr>
<td>HOT LUBE P-850</td>
<td>Oil-based</td>
<td>Spraying for PLUNGER Chip, Stability, excellent lubricity</td>
<td>Kinematic Viscosity (40℃,mm²/s): 200</td>
</tr>
<tr>
<td>LAUREL AL-325PE</td>
<td>Oil-based</td>
<td>Aluminum slab strand casting, high-temperature lubricity, anti-seize property</td>
<td>-</td>
</tr>
</tbody>
</table>

---

**Special Lubricants / Company History / HQ and Sales Offices**

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**Company**

- **Mar 2015**: Samsung Electronics, Korea’s first export processing oil factory in Vietnam smartphones
- **Oct 2014**: Received KS Certification Award on 2014 World Standards Day
- **Nov 2012**: Signed Hazardous Chemical Guidelines Agreement (Metal Worker’s Union)
- **Oct 2012**: Developed non-ferrous metal working fluids
- **Feb 2010**: Developed Can Drawing Oil for the secondary batteries
- **2012**: Developed non-ferrous metal working fluids and Signed Hazardous Chemical Guidelines Agreement (Metal Worker’s Union)
- **2010**: Developed non-ferrous metal working fluids
- **2010**: Developed Can Drawing Oil for the secondary batteries
- **2009**: Renamed the company from Dongho Company to DH Chemical Co., Ltd
- **Jul 2010**: Exported punching oil (10DKM/year)
- **Dec 2007**: Launched Olex brand and registered trade mark
- **Jan 2007**: Developed grinding oil for bearings
- **Sep 2005**: ISO 9001 certification, ISO 14001 certification
- **Oct 2004**: Developed punching oil for nano-plasma
- **Sep 2003**: Extended and renovated factory buildings and R&D center
- **Oct 2004**: Established Shanghai, China factory (SANGHAI TECTYL OIL & CHEMICALS CO., LTD)
- **Sep 2003**: Exported punching oil for air conditioner heat exchangers
- **Feb 2001**: Acquired an approval of quality display of industrial lubricants KS
- **Aug 2000**: Developed punching oil and grinding oil for air conditioner heat exchangers
- **Nov 1999**: Introduced IT for business process
- **Non 1999**: Extended production facilities (Blending Tank, etc.)
- **May 1999**: Designated as Promising SME
- **Jun 1999**: Extended production facilities (Blending Tank, etc.)

---

**HQ and Sales Offices**

- **Head office and factory**: [641-0903], 137 gil, Namsan-dong, Seo-gu, Gwangju, Gyeongnam
  - **TEL.**: +82-55-283-3241 / 4
  - **FAX.**: +82-55-283-3245
- **Sales Div. at the HQ**: [641-0903], 137 gil, Namsan-dong, Seo-gu, Gwangju, Gyeongnam
  - **TEL.**: +82-55-283-3241 / 4
  - **FAX.**: +82-55-283-3245
- **Gwangju Office**: [606-300] 30-21, Badong-dong, 135gil, Iho, Gwangsan-gu, Gwangju
  - **TEL.**: +82-62-953-3905
- **Central Region Office**: (440-824) 408, Yudong-dong, Jiji, Offotel, 2193, Seoburo, Jangangu, Suwon-si, Gyeongnam
  - **TEL.**: +82-31-243-2670 / 31-243-3671
- **Kyungpook Office**: [711-811], 11-21, Sechon-dong, Dalseong, Dalseongun, Daegu
  - **TEL.**: +82-53-523-1683
- **Sales Partner**
  - **Busan Office**: (819-210), 569gil, Naksan-dong, Nangdong-myeon, Gungdong-gu, Busan
  - **TEL.**: +82-51-971-6881 / 881
  - **Dong Ho Industry**: (703-110), 46, Yeongdong-dong, 17gil, Mungyeong, Seo-gu, Daegu
  - **TEL.**: +82-53-562-9030 / 9031
  - **Dong Ho Chemical**: (641-060), 14014 (Palyong-dong), 140gil, Chasangro, Euichanggu, Changwonsi, Gyeongnam
  - **TEL.**: +82-55-281-6895 / 867
  - **FAX.**: +82-55-281-6857
  - **Jeil Lubricants**: (641-846), 14, 68 (Palyong-dong), 150gil, Chasangro, Euichanggu, Changwonsi, Gyeongnam
  - **TEL.**: +82-55-281-6895 / 867
  - **FAX.**: +82-55-281-6857
  - **Green Chemicals**: (637-824), 84, Yoojeon 2gil, Gunbuk-myeon, Hamangun, Gyeongnam
  - **TEL.**: +82-55-583-5182 / 5183
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