PRODUCT BULLETIN

The Future of Energy, Resources and Materials
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Unipress PA5

High-Grade Lubricating Oil for Plastic Working

The output of plastic working operations with metal materials is affected by factors such as the shapes of the worked products, the working method, and the quality of the materials. Particularly influential is the lubricating oil used, so the choice of an appropriate lubricant is very important. A lubricating oil used in press working operations must be able to prevent material breakage, seizures, wrinkle formation, scratches on the product surface, and wear to the molds. The oil must therefore form a tough film between the machine and the worked materials. Furthermore, since the surfaces are exposed to an extremely wide range of temperatures, it is also essential that the oil provide consistent performance at any temperature. **Unipress PA5** is a nonsoluble lubricating oil for pressing operations that was designed to provide outstanding pressing performance, wear prevention, and load-bearing. It also prevents corrosion and rust on worked items.

● Special Features

1. Applicable to Many Types of Materials

Unipress PA5 can be used for the pressing of many types of materials, including aluminum, copper, copper alloys, low-carbon steels, etc. It is particularly suitable for the pressing of small items and for large-radius pressing, as well as for bending, punching, and light drawing.

2. Less Oil Consumption

Since **Unipress PA5** has a viscosity as low as that of spindle oil, little oil remains on worked products and the oil is easy to remove. As a result, there is also less contamination by cleaning fluids.

3. Little Skin Irritation

Unipress PA5 contains no chlorine or sulfur additives, so it reduces odor and skin irritation.

4. Outstanding Rust Prevention; Prevents Discoloration of Copper-Containing Materials

One potential problem during pressing operations of copper and copper alloys is discoloration of the metal after pressing. **Unipress PA5** not only contains special additives that prevent discoloration but also is very effective at preventing the rusting of steels.

● Applications

Punching and drawing of automotive electric parts, home appliance parts, aluminum fins, electronic and electrical parts; spinning of aluminum materials; etc.

● Coating Methods

Spraying, rolling, brushing, etc.

● Containers

200-liter drums and 20-liter cans.

● Typical Properties of Unipress PA5

Density (15℃)	g/cm^3	0.849
Flash point (COC)	℃	134
Kinematic viscosity (40℃)	mm^2/s	6.48
Pour point	℃	–12.5
TAN	mg KOH/g	0.22

Note: The typical properties may be changed without notice. (June 2002)

● Precautions for Use

Do not mix this oil with water. Contamination of the oil by water can weaken the oil's ability to prevent discoloration of copper and copper alloys.

Handling Precautions

▼ **Follow these precautions when handling this product.**

! CAUTION **Handling Precautions**	● Inflammation can occur if oil enters the eyes. When handling this oil, wear protective goggles or take other measures to prevent eye contact. ● Inflammation can occur if oil comes into contact with skin. When handling this oil, wear protective gloves or take other measures to prevent skin contact. ● The inhalation of mist may cause discomfort. When handling this oil, wear a respirator or take other measures to prevent mist inhalation. ● Do not drink this oil. (Swallowing this oil can cause diarrhea and nausea.) ● Keep out of reach of children. ● Read the Material Safety Data Sheet (MSDS) for this product before using the product. Obtain the Material Safety Data Sheet from where you purchased the product.
First Aid	● In case of eye contact, rinse eyes thoroughly with clean water and consult with a physician. ● In case of skin contact, wash skin thoroughly with soap and water. ● If mist is inhaled, move the person to a location with fresh air, wrap the person in a blanket, keep the person warm and quiet, and consult with a physician. ● If this oil is swallowed, do not induce vomiting. Consult with a physician immediately.
Disposal of Used Oil and Containers	● Do not apply pressure to empty containers. The containers may burst if pressure is applied. ● Do not weld, heat, drill, or cut the containers. The remaining oil may ignite and the containers may explode. ● Follow all applicable laws and regulations when disposing of used oil or containers. If you are unsure of the proper disposal methods, consult first with the seller of the oil.
Storage Method	Seal the container tightly after use in order to prevent dirt, moisture, etc., from entering the oil. Store in a dark location. Avoid direct sunlight.