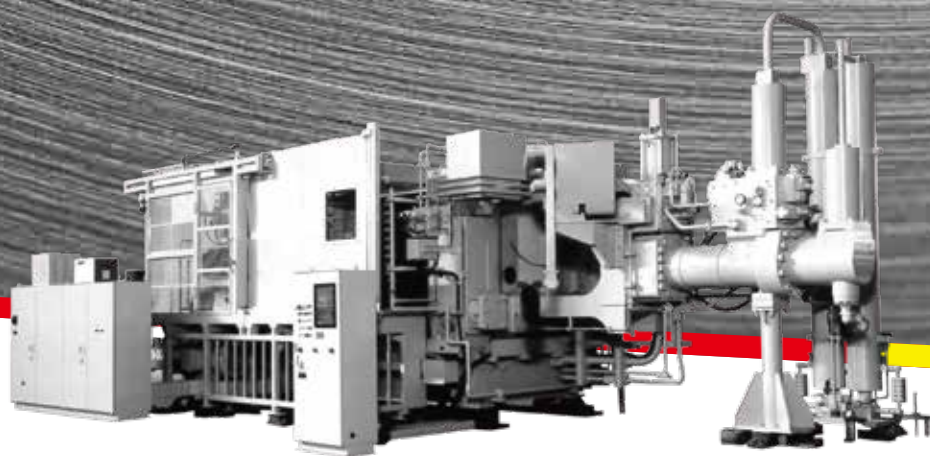




JAEGER



PRODUCTS FOR DIE CASTING INDUSTRY

AL MG ZN ALLOY PRODUCT RECOMMENDATIONS

JAEGER OIL & CHEMICAL CO LTD

COMPANY INTRODUCTION

Jaeger Oil & Chemical Co., Ltd. (hereinafter called "Jaeger") was founded in 1984. The company engages in the market expansion of special industrial lubricants, integrated with production, R & D, distribution and technical services. With the mission to support the industrial development of PRC, Jaeger grasps the trend and devotes to introduce contemporary lubrication technology for its target customers. Backed by business partners in Europe and the U.S. with advanced lubrication technology, Jaeger provides high quality lubrication products to the Chinese industrial market with its utmost effort and a firm basis.

Jaeger's Headquarter is located in Hong Kong. It oversees the group's management, strategies and financial affairs. It has offices in Shanghai and major industrial cities in China. Its distribution network covers all over China and Southeast Asia. The production base with R & D centre and logistics hub in Guangzhou, Jiajun Lubrication Materials Co., Ltd., is equipped with advanced technical know-how which is the key to ensure good product quality.

Jaeger's products are of high quality lubricants coupled with broad varieties. They fulfill the extensive applications in various industries such as metalworking, automotive manufacturing, communication equipments, electronic assembly, precision machining, die casting, aerospace, plastic mould injection, textile, etc. Jaeger strictly controls over its product quality and production processes. We successfully obtained ISO9001 international quality management system certification and ISO14001 environmental management system certification. These systems are of great significance for standardizing the production and operation, improving ecological civilization management capabilities, and in high-end technology industry development.

Jaeger adheres to the concept of "Product Innovation, Continuous Quality Improvement, Customer Satisfaction". It devotes to provide lubrication solutions for industrial users in a one-stop platform of sales and technical services. With excellent product quality, high-quality services and awareness of environmental protection, Jaeger products are not only popular in domestic industrial cities. Also more and more MNC manufacturers, public utilities and even HKSAR Government departments that have high concern over quality and the environment have become our customers. Since the 1990s, Jaeger has become one of the designated material suppliers of the HKSAR Government with an outstanding reputation.

"Jaeger" has its own product brand that incorporates high-performance imported raw materials. Other product brands are manufactured in Europe, the U.S. and Japan imported into China for distribution.



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ALUMINIUM ALLOY DIE CASTING RELEASE AGENTS

KORNICHE DL 820G

KORNICHE DL 820G adopts the latest wax-free technology, which does not clog the nozzle and exhaust port. It prevents pore defects and stains on the work-piece surface. This product has strong mould release performance and contains special high-temperature resistant additives to improve its adhesion and film-forming ability on high-temperature moulds.

► Features

- No residue on moulds and die casting work-pieces
- High moisture
- Excellent high-temperature mould release performance
- Environmentally friendly, low smoke emissions
- Achieve clean and bright surface of die castings
- Strong sprayability, for later spraying processes
- Provides extremely high lubrication performance for ejectors and sliders

Application

For non-ferrous metal pressure casting such as aluminium and magnesium alloys.

Dilution ratio 1:80-1:120

KORNICHE DL 108

Korniche DL 108 is a silicon-free water-based release agent, with strong mould release performance and low gas emission property. It can significantly shorten the die casting cycle and improve production efficiency.

► Features

- Excellent high temperature mould release performance
- Clean and bright surface of die castings
- High lubricity, reducing mould wear
- Environmentally friendly, reducing waste disposal costs
- No residue

Application

Suitable for die casting of non-ferrous metals such as aluminium alloys, it is mainly used in sprayable die castings of electrical components.

Dilution ratio 1:120-1:200

JAEGER DS 8025

A water-based release agent specially developed for aluminium alloy die casting, with excellent high temperature resistance, it prevents mould sintering, ensuring that the surface of the die casting is bright and free of yellow stains.

► Features

- Strong mould release performance
- Unique high temperature resistant anti-sintering additives
- Reduce wear and extend mould life
- Comply with European environmental regulations: smokeless, odorless, non-toxic, non-burning
- Improve wetting and cooling performance

Application

It is suitable for aluminium alloy die casting, removing, reducing or effectively preventing mould sintering.

Dilution ratio 1:150-350

ALUMINIUM ALLOY DIE CASTING RELEASE AGENTS

■ JAEGER DS 5132N

The product is suitable for die casting of non-ferrous metals such as aluminium and magnesium alloys, no residue, no clogging, enhanced wetting and cooling performance.

► Features

- Excellent high-temperature mould release performance
- Environmentally friendly, low smoke emission
- High moisture for lubrication

Application

Suitable for aluminium and magnesium alloy die casting, effectively preventing mould sintering.

Dilution ratio 1:120-200

■ JAEGER DS 8198

The extremely low wax content provides excellent mould release lubrication property and high temperature resistance, making the surface of the die-casting work-piece smooth and dense, without yellowing or blackening, without scratches. It can extend the life of mould.

► Features

- Environmentally friendly, reducing waste disposal costs
- Clean and bright surface mould and has no yellow stains
- High cost performance

Application

Suitable for light metal pressure casting, effectively preventing mould sintering.

Dilution ratio 1:40-120

| Product | JAEGER DS 5132N | JAEGER DS 5705 | JAEGER DS 5880 | JAEGER DS 8025 | JAEGER DS 8198 | KORNICHE DL 108 | KORNICHE DL 818 | KORNICHE DL 820G |
|--------------------------------|---------------------|----------------|---------------------|---------------------|---------------------|--------------------|-----------------|--------------------|
| Metal | Al alloy | Mg alloy | Mg alloy | Al alloy | Al alloy | Al alloy | Mg, Al alloy | Al alloy |
| Appearance | White viscous fluid | White emulsion | White viscous fluid | White viscous fluid | White viscous fluid | Light yellow fluid | White emulsion | Milky white liquid |
| pH Value | 8 | 11.4 | 9.3 | 8 | 7.83 | 7.5 | 7.83 | 6 |
| Viscosity (cPs, 25°C, 100 RPM) | 14.2 | 15 | 23.2 | - | 18.8 | 26.8 | 18.8 | 14 |
| Density (g/cm³, 20 °C) | 0.983 | 0.987 | 0.979 | 0.98 | 0.971 | 0.965 | 0.971 | 0.98 |
| Solubility | Soluble in water | | | | | | | |

MAGNESIUM ALLOY DIE CASTING RELEASE AGENTS

KORNICHE DL 818

Korniche DL 818 is a water-based product mainly used for light metal pressure casting, providing excellent mould release lubrication property with extremely low wax content. It has good high temperature resistance, making the surface of die-casting work-piece smooth and dense, without yellowing or blackening, without scratches, and can extend the work life of the mould.

► Features

- Outstanding high temperature mould release performance
- Clean and bright surface mould and has no yellow stains
- Reduce wear and extend mould life
- Environmentally friendly, reducing waste disposal costs

Application

Suitable for magnesium and aluminium alloy die casting.

Dilution ratio 1:120-1:200

JAEGER DS 5880

This product is mainly used for water-based products for magnesium alloy die casting. The active substance content is very high, and the selected additives improve the excellent mould release and flow performance, making the surface of the die casting smooth and bright without residue. The product complies with European environmental protection regulations: smokeless, odourless, non-toxic, VOC-free, and non-combustible.

► Features

- Outstanding high-temperature mould release performance
- Low smoke emission
- Strong fluidity
- Environmentally friendly, reducing waste disposal costs
- Achieve clean and bright surface of the die casting mould

Application

It can be sprayed with a spray gun or an automatic spray system.

Dilution ratio 1:80-180

JAEGER DS 5705

A new water-soluble release agent with high content of active substances, which improves the mould release performance and flow properties.

► Features

- High lubricity, reducing mould wear
- Achieve clean and bright surface mould without residue
- Excellent high-temperature mould release performance
- Comply with European environmental regulations: smokeless, odourless, non-toxic, VOC-free, non-combustible

Application

Suitable for magnesium alloy pressure casting.

Dilution ratio 1:80-120



ZINC ALLOY DIE CASTING RELEASE AGENTS

■ JAEGER ZN-10

Zinc alloy die-casting release agent with extremely low VOC content, it does not contain silicon and does not affect post-processing procedures.

► Features

- Excellent mould release performance, extending mould life
- Low smoke emission, environmentally friendly
- Ultra-fine oil particles will not clog the spray gun even at high concentrations

| Appearance | Colourless clear liquid |
|-------------------------------|-------------------------|
| Specific Gravity@20°C | 0.8139 |
| Kinematic Viscosity@40°C, cSt | 4.007 |
| Flash Point (Closed) , °C | 124 |
| Volatile Residue@140°C, 40min | 22.15% |

■ JAEGER ZN-20

The product is made from a variety of high-quality base oils. It is silicon free. With good emulsification, the emulsion is uniform and stable after adding water.

► Features

- Low smoke emission, environmentally friendly
- Long life, strong adaptability
- Safe to use, no harmful gases
- Small particles, it will not clog the spray gun at high concentrations

| Appearance | Light yellow clear liquid |
|-----------------------|---------------------------|
| Specific Gravity@20°C | 0.91 |
| Viscosity@20°C, Mps | 245 |
| pH Value | 7.5 |
| Zn Corrosion | Class 1 |
| Thermal Stability | No stratification |

| | |
|-------------|--|
| Application | The products are suitable for zinc alloy die casting release. They can be applied by manual spray gun or automatic spray system. |
|-------------|--|



PLUNGER LUBRICANTS

■ JAEGER PB-215 / PW-215

PB-2## / PW-2## series is a dry granular plunger lubricant specially designed for lubrication of plungers and barrels in magnesium-aluminium alloy cold chamber die-casting machinery. It is a new high-performance product that replaces traditional oily/liquid lubrication and does not cause pollution caused by general oily lubricants.

► Features

- Rapid and effective wetting performance providing excellent lubrication
- Protects plunger head and material tube while prolonging service life
- Results in clean and bright surface of die castings
- Reduces smoke, carbon deposits and pollution
- Reduces cleaning workshop and emission costs
- Less usage than traditional oily products, saving costs
- It can be stored for a long time and reduces storage space
- Improves workshop and machine cleanliness, more popular with users

| Product | PB-215 | PW-215 |
|-----------------------|-----------|---------|
| Particle Diameter(mm) | 1.0-1.5 | 1.0-1.5 |
| Colour | Black | White |
| Form | Wax beads | |
| Odour | Mild | |
| Flash Point | 320°C | |
| Melting Point | 100°C | |
| Density@20°C | 900 kg/m³ | |

Direction for Use

For pellet machines that use quantitative injection, a quantitative amount of Jaeger plunger lubricating beads are injected onto the plunger and the material pipe in each process.



FIRE RESISTANT HYDRAULIC OILS

JAEGER HFC

This product has good chemical stability and is suitable for hydraulic systems operating in open flames and high temperature environments such as steel-making, iron-making, continuous casting, hot rolling, and metal die casting. It can meet the anti-wear requirements of most hydraulic pump manufacturers for hydraulic fluids.

► Features

- Low freezing point, easy to start at low temperature
- Excellent flame retardancy, ensuring safe use at high temperatures
- Good lubrication performance, effectively extending the service life of the hydraulic pump
- Good corrosion resistance, providing effective corrosion protection for the surface of components
- It contains a variety of additives such as anti-wear agents, antioxidants, rust inhibitors and anti-foaming agents

| Product | HFC-46 | HFC-68 |
|---------------------------------|-------------------------|-------------------------|
| Colour | Colourless clear liquid | Colourless clear liquid |
| ISO Grade | 46 | 68 |
| Specific Gravit @ 20°C | 1.06 | 1.07 |
| Flash Point (Open), °C | Nil | Nil |
| Pour Point, °C | -39 | -42 |
| pH Value | 9.89 | 9.89 |
| Kinematic Viscosity @ 40°C, cSt | 44.24 | 69.19 |
| Four-Ball Test PB, kg | 40 | 50 |
| Cu Corrosion @ 50°C, 24h, Level | A | A |
| Al Corrosion @ 50°C, 24h, Level | A | A |

COOLANTS

KORNICHE SCF 800 PLUS

Mg alloy

Semi-synthetic

Korniche SCF 800 PLUS is a low-oil semi-synthetic coolant designed for magnesium alloy machining. It can inhibit hydrogen evolution during machining. With excellent cooling and defoaming properties, the product can withstand high-speed flow injection, and is stable in an environment with 5000 ppm magnesium salt.

► Features

- Excellent emulsification stability
- Adaptability to high-magnesium salt working environment
- Protect magnesium alloys from oxidation, discoloration, corrosion and pollution

Application

Especially suitable for magnesium alloy processing, it can also be used to process non-ferrous metals such as aluminium alloys and copper alloys.

JAEGER ME-833

Al alloy

Emulsion

A high-performance micro-emulsion specially designed for aluminium and aluminium alloy processing, which can effectively solve the problems of smelliness in dilution, sticks, poor finish and stain corrosion during aluminium alloy machining.

► Features

- The product contains synthetic ester oils, suitable for aluminium alloy tapping
- High biological stability, not easy to breed bacteria, long service life of dilution
- With excellent lubrication performance, it can effectively protect the tool and improve the surface finish of the work-piece
- The product has low foaming property and high adaptability to soft water and hard water
- Free of sulphur or chlorine, it adopts low odor components, mild formula ingredients, low skin irritation, and is user-friendly

Application

It is suitable for most ferrous and non-ferrous metal processing, suitable for turning, milling, drilling, boring, aluminium alloy tapping and other processing, especially suitable for modern CNC machining centres. It is recommended for the processing of aluminium alloy automotive engine cylinder blocks, cylinder heads, and gearbox shells.

JAEGER SW-136

Al alloy

Semi-synthetic

It is a low oil content semi-synthetic coolant that is not easy to cause discoloration of aluminium alloy, and the dilution is still stable at 1000ppm. It is suitable for light to medium duty machining of ferrous metals and non-ferrous metals such as stainless steel, carbon steel and aluminium.

► Features

- Excellent corrosion resistance, suitable for various metals.
- Good hard water stability, the dilution is still stable at 1000ppm.
- Great cooling and clean dispersibility, which can keep the working fluid clean.
- Outstanding biological stability, long service life of the dilution.

Application

Suitable for light and medium load machining of 6 series aluminium and 7 series aluminium.

COOLANTS

JAEGER SW-289C

Al alloy

Fully-synthetic

This product is a universal, fully-synthetic coolant with good hard water stability. It has excellent cooling properties, which can shorten the cooling time of heat generated during high-speed processing, preventing work-piece burn and tool wear, thereby extending the tool life and improving the surface accuracy of the work-piece.

Features

- Excellent rust resistance
- Excellent swarf sedimentation
- Bio-resistant, non-allergic, non-smelly
- Tramp oil repellent
- Free of sulphur, chlorine, phenol, nitrite, etc
- Versatile applications, suitable for a variety of processing

Application

It is suitable for medium to heavy duty machining of various metals such as stainless steel, aluminium alloy, titanium alloy and high-temperature alloy, etc. It is suitable for cutting, turning and milling and other processing.

| Product | KORNICHE SCF 800 PLUS | JAEGER ME-833 | JAEGER SW-136 | JAEGER SW-289C |
|------------------------------|------------------------------|--|----------------------------------|---|
| Appearance | Light orange clear liquid | Yellow clear liquid | Yellow to amber clear liquid | Light yellow clear liquid |
| 5% Appearance of dilution | Light yellow clear liquid | White emulsion | Light yellow clear liquid | Colourless clear liquid |
| Specific Gravity @ 20°C | 1.0100 (typical) | 0.9501 (typical) | 1.0175 | 1.0536 (typical) |
| pH @ 5% Dilution | 8.5-9.5 | 9.0-10.0 | 9.42 | 8.6 (typical) |
| Recommended Concentration | 5.0-8.0% | Turning/Milling 6.0 - 9.0% Drilling/tapping 8.0 - 12.0% | Cutting / Milling 8.0 - 12.0% | Turning/Milling/ Drilling/Tapping 5.0-20.0% |

Note: The concentration of the dilution can be adjusted appropriately according to the difficulty of machining and the requirements of the surface finish of the work-piece.

CLEANERS

■ JAEGER JC-739A

Al alloy

This product is an efficient and safe water-soluble aluminium alloy cleaning agent, using imported cationic and non-ionic surfactants as the main raw materials. This product complies with the GB 38508-2020 standard for volatile organic compounds in cleaning agents. It is non-flammable, safe to use, and easy to transport. It is an ideal choice for ultrasonic or immersion cleaning of aluminium alloy parts.

► Features

- No corrosion to aluminium alloy
- Biodegradable ingredients without harmful substances
- Excellent penetration and cleaning ability
- Mild ingredients, energy saving, and effective reduction of overall costs

Application | It is suitable for ultrasonic or immersion cleaning of various aluminium alloy parts.

■ JAEGER JC-738M

Al Mg alloy

The product is an efficient and safe cleaning agent designed for demanding surface finish of aluminium alloy and magnesium alloy parts. It uses ionic and non-ionic surfactants as the main raw materials, which are non-flammable and have good biodegradability. This product can effectively remove oil stains on aluminium alloy and magnesium alloy parts.

► Features

- No corrosion to aluminium and magnesium alloys
- Excellent penetration and cleaning ability
- Mild ingredients, energy saving, and effective reduction of costs
- Especially suitable for demanding surface finish of aluminium alloy and magnesium alloy part

Application | It is suitable for ultrasonic or immersion cleaning of various profiles of aluminium alloy, magnesium alloy, copper alloy, etc.

■ JAEGER JC-103CR

Al alloy

This is a highly efficient cleaning agent developed from a variety of low-foaming high-efficiency surfactants, penetrants and composite rust inhibitors. The product is particularly suitable for cleaning processes with low foaming requirements and can effectively remove stains on the surface of work-pieces.

► Features

- No corrosion to metals
- No irritating odour, non-flammable and non-explosive
- Excellent penetration and cleaning ability
- Low foaming tendency, it meets the requirements of spray degreasing cleaning under pressure

Application | The product is applicable to non-ferrous metals and ferrous metals such as die-cast aluminium alloys, cast iron, and steel. It is also applicable to spray or ultrasonic cleaning processes for automotive parts, hardware and mechanical parts, electronic product parts, etc.

CLEANERS

| Product | JC-739A | JC-738M | JC-103CR |
|-----------------------------------|---|------------------------|---------------------|
| Appearance | Colourless to light yellow transparent liquid | Light yellow liquid | Light yellow liquid |
| Specific Gravity @ 20°C | 0.95 | 1.01 | 1.03 |
| pH@ 5% | 7.5-9.0 | 8.0 | 9.0-10.0 |
| Solubility | Soluble in water | Soluble in water | Soluble in water |
| Recommended Cleaning Method | Ultrasonic / Immersion | Ultrasonic / Immersion | Spray / Ultrasonic |
| Optimum Operating Temperature, °C | 40~50 | 40~50 | 30~50 |

Directions for use

- ①Clean the ultrasonic cleaning tank and inject an appropriate amount of water.
- ②Heat the water to 40-50°C.
- ③According to the oil pollution of the work-piece, add the cleaning agent to the water at a ratio of 5% (light oil polluted) or 10% (heavy oil polluted). Stir well and clean.



PASSIVATION AGENTS

JAEGER JC-608A

Al alloy

JC-608A is a bare film chromium-free film-forming agent for aluminium alloys. It does not contain phosphorus or chromium. It is particularly suitable for bare film corrosion protection of die-casting aluminium. It can replace the hexavalent chromium or trivalent chromium coating pretreatment process and can form a colourless to yellow or blue organic mixed film layer on the surface of aluminium alloys. It is suitable for aluminium alloys through passivation treatment such as spraying and hot dipping.

JAEGER JC-638A

Al alloy

JC-638A is a concentrated liquid passivator based on trivalent chromium. It can form a light-coloured visible coating on the surface of aluminium alloy. Its anti-corrosion performance is better than that of hexavalent chromium passivation process. It can also be used for alloys with high copper content and aluminium die casting. This product is suitable for aluminium alloys through spraying, hot dipping and other passivation treatments. It is particularly suitable for bare film corrosion protection of die-cast aluminium.

JAEGER JC-1306

Mg alloy

JC-1306 is used for anti-corrosion and anti-discoloration treatment of magnesium alloy parts with magnesium content greater than 90%. The passivation anti-corrosion film is off-white, grey to grey-black. It is free of chromium, lead, and other harmful elements.

| Product | JC-608A | JC-638A | JC-1306 |
|---------------------------|---------------------|-------------------|-----------------------------------|
| Appearance | Yellow clear liquid | Dark green liquid | Colourless to light yellow liquid |
| Specific Gravity @ 20°C | 1.01 | 1.01 | 1.10 |
| Solubility | Soluble in water | Soluble in water | Soluble in water |
| Recommended Concentration | 10%-25% | 15%-25% | 15%-25% |
| Temperature | 25-35°C | 30-35°C | 30-35°C |
| Soaking Time | 3-6 min | 3-6 min | 3-6 min |

Directions for use

- ① Clean the work-piece to be treated to ensure cleanliness before entering the passivation agent.
- ② Heat the prepared working fluid to the specified temperature at the specified concentration. Soak the surface of the work-piece to be passivated to complete the passivation process.
- ③ For work-pieces with complex geometric shapes, 40 kHz ultrasonic cleaning and passivation can achieve the optimal effect.
- ④ After passivation, rinse with de-ionized water. If conditions permit, rinse again with warm water.
- ⑤ After rinsing, dry the work-piece.

KORNICHE ANTI-SEIZE PASTE

Korniche Anti-Seize Paste is a copper based anti-seize material. It can form a protective coating which cannot be easily washed off or burned up.

► Features

- Working temperature up to 1100°C
- Good water resistance
- Good thermal conductivity
- Suitable for assembly and maintenance of equipment
- Reduce assembly torque
- Excellent acid resistance and corrosion protection

Application

Korniche Anti-Seize Paste provides excellent heat resistance, anti-seizure, anti-rust, anti-corrosion, waterproof, acid proof and other properties for metal parts. Effective lubrication and anti-seizure performance can be obtained even at temperatures up to 1100°C.

| | |
|-----------------------------------|-------------------------------------|
| Appearance | Opaque Copper Colour Viscous Liquid |
| Solid Lubricant | Copper |
| Dropping Point (ASTM D-2265) , °C | Infusible |
| Operating Temperature Range | - 60 ~ 1100°C |





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