

Superior Performance Lubricants



*Korniche®*

**KTI**

**KORNICHE TITANIUM ALLOYS  
METALWORKING CARE SOLUTIONS**



## COMPANY INTRODUCTION

**Oxton Chemical Limited (OCL)** has its foundation in the beautiful English town of Oxford renowned worldwide for its academic heritage. Oxford provides the ideal environment for creative and unique research and development concepts to materialise.

Established originally by graduate chemists and technologists who had specialised in the research of lubrication technology, they were also responsible for many of the advancements made in the field of specialty lubricants. The Company was relocated to the industrial core of United Kingdom in 1998. It changed its name to Oxton Chemical Limited and established the **Korniche** range of advanced lubricants. With a long history of working in the field of lubricant development, application and production, OCL provides state-of-the-art lubrication technology to manufacture its **Korniche** range of advanced lubricants and maintenance products.

**Korniche** specialty lubricants are produced under the most stringent quality control procedures and combined with its well trained and experienced support staff. The technology of these innovative lubricants is applied throughout the world including Europe, United States, Japan and South-east Asia. The **Korniche** range of advanced lubricants is the ideal choice for today's industry.



# KORNICHE TITANIUM ALLOYS METALWORKING CARE SOLUTIONS

## APPLICABLE INDUSTRIES

In recent years, the importance of titanium alloys as work-piece materials in the production of various industrial components has increased significantly. Titanium alloys combine a high strength-to-weight ratio with excellent mechanical properties and corrosion resistance, making them the ideal material choice for many critical applications.

**Aeroplane Spare Parts**

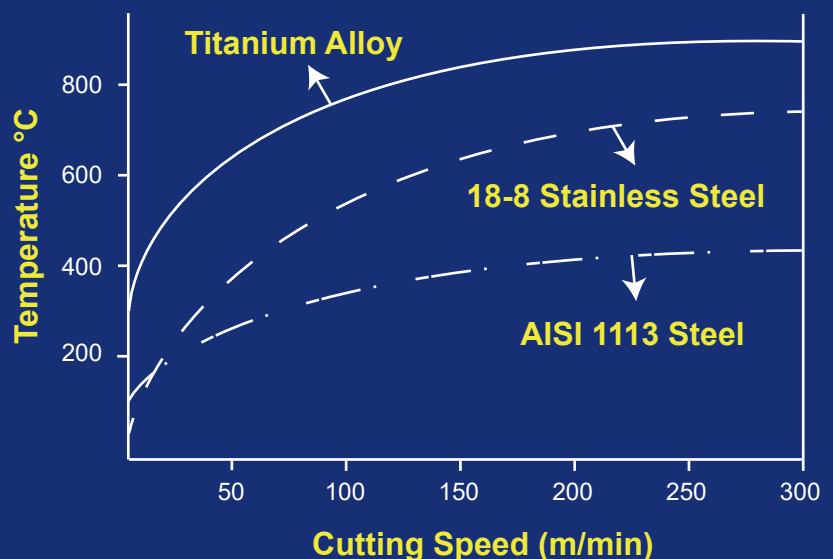
**Electronic Products**

**Medical Implants**

While titanium alloys have ideal properties for use in those industries, they also extend significant processing challenges. The difficulties in processing titanium alloys stems from the inherent properties of the metal:

- **High chemical reactivity**
- **Low thermal conductivity**
- **Low modulus of elasticity**

Considering the chemical and physical properties of titanium alloys and their resulting low machinability, testing and selecting the appropriate metalworking fluid is critical. In general, water based fluids used in large quantities are often more suitable for titanium machining than neat oils. This is because using water based coolants results in more efficient cooling and thermal dissipation. For slower and more demanding machining operations, water based emulsions with higher lubricity often provide the best performance.



# KORNICHE WATER SOLUBLE COOLANTS

Korniche SCF water soluble coolant series is manufactured using the latest bio-stable additive technology. The products can extend the life of sump tank and improve cutting performance. The production efficiency is better than traditional coolants. Korniche coolant helps to improve the quality of work-piece. This series of products includes white emulsion, semi-synthetic, fully synthetic and grinding coolants as well as heavy duty grade that can substitute neat cutting oils.

## FEATURES AND BENEFITS OF KORNICHE SCF SERIES

- ✓ Green characteristics, environmental friendly, safe and high performance.
- ✓ Does not contain di-ethanolamine (DEA), phenol and other harmful substances.
- ✓ High biological stability and long service life of emulsion.
- ✓ Excellent lubricity, can effectively protect cutting tools and improve surface finish..
- ✓ Reduce waste discharge and treatment costs
- ✓ Decrease monitoring and maintenance costs so as to shorten downtime.
- ✓ Stable in hard water and is suitable for various water qualities.



# ■ PRODUCT APPLICATIONS

## MACHINING PROCESSES

✓ Drilling

✓ Milling

✓ Boring

✓ Turning

✓ Tapping

# KORNICHE EMUSIFYING COOLANTS

Product	Characteristics & Usage	
<b>SCF 500 ND PLUS</b> Emulsion Coolant	<ul style="list-style-type: none"> <li>◆ This product is a high-performance emulsion specially designed for titanium alloy and aluminium alloy processing. It is widely used in the processing of titanium alloy and aluminium alloy parts in aerospace, medical equipment, etc.</li> <li>◆ It has a high oil content and uses synthetic ester additives. With excellent lubrication properties, it provides maximum protection for the tool, effectively improving the surface finish of the work-piece. It can replace the application of some traditional pure oils.</li> <li>◆ The foam suppression system is used, which is highly adaptable to soft water and hard water. During high-pressure spraying, it will not produce excessive foam that affects the use effect.</li> </ul>	<ul style="list-style-type: none"> <li>● It has good corrosion resistance and is suitable for processing most ferrous and non-ferrous metals.</li> <li>● It is suitable for a variety of processing techniques such as turning, milling, drilling, boring, tapping, etc., especially suitable for use in modern CNC machining centres.</li> <li>● It is suitable for use on a variety of machine tools including high-speed machining machines.</li> </ul>
<b>SCF 209 PLUS</b> Semi-Synthetic Coolant	<ul style="list-style-type: none"> <li>◆ This product is a high-performance semi-synthetic coolant composed of naphthenic mineral oil and ester lubricant. The product adopts a special antibacterial and anti-mildew system, which can effectively extend the working life of the diluent.</li> <li>◆ It has low foaming characteristics and is highly adaptable to soft water and hard water below 600ppm.</li> <li>◆ Chlorine-free, lubricating and anti-rusting system composed of saturated esters and special amides.</li> </ul>	<ul style="list-style-type: none"> <li>● The product is suitable for use on a variety of machine tools including high-speed processing machines.</li> <li>● Particularly suitable for processing various sensitive aluminium materials.</li> <li>● Suitable for medium-load processing such as turning, milling, tapping, drilling, etc. of most ferrous and non-ferrous metals, especially suitable for use in modern CNC machining centres.</li> </ul>
<b>SCF 382 PLUS</b> Semi-Synthetic Coolant	<ul style="list-style-type: none"> <li>◆ A high-performance semi-synthetic cutting fluid that is easily mixed with all types of water to form a light yellow-white transparent liquid, providing excellent work-piece visibility.</li> <li>◆ The product adopts special antibacterial technology, and the diluted solution has a long service life. It has low foaming characteristics and will not produce excessive foam and affect the result during high-pressure spraying.</li> </ul>	<ul style="list-style-type: none"> <li>● Suitable for use on a variety of machine tools including high-speed machining machines.</li> <li>● Suitable for turning, milling, grinding and other light to medium load processing of most ferrous and non-ferrous metals, especially suitable for use in modern CNC machining centres. It is also suitable for machining cast iron.</li> </ul>
<b>SCF 383 PLUS</b> Fully-Synthetic Coolant	<ul style="list-style-type: none"> <li>◆ A universal fully-synthetic cutting fluid with good interface lubricity and extreme pressure properties.</li> <li>◆ This product has excellent cooling properties, which can shorten the cooling time of heat generated during high-speed machining, prevent work-piece burn and tool wear, thereby extending the tool life and improving the surface accuracy of the work-piece.</li> <li>◆ The product has good sedimentation properties, preventing the adhesion of machining debris and the generation of black stains on the work-piece processing surface.</li> <li>◆ It does not contain mineral oil, sulfur, chlorine, phenol, nitrite and other substances, and employees are not allergic.</li> </ul>	<ul style="list-style-type: none"> <li>● It is applicable to most ferrous and nonferrous metals such as aluminium alloy, titanium alloy, stainless steel, alloy steel, etc.</li> <li>● Suitable for various processes such as cutting, turning and milling.</li> </ul>

Product	Characteristics & Usage	
<b>SCF 998 PLUS</b> Fully-Synthetic Coolant	<ul style="list-style-type: none"> <li>◆ A high-performance fully synthetic cutting fluid that can be easily mixed with various types of water to form a colourless and transparent diluent, providing excellent work-piece visibility.</li> <li>◆ It has excellent lubrication and extreme pressure properties, providing maximum protection for the tool and improve the surface finish of the work-piece. The product has excellent corrosion resistance, sedimentation resistance and good rust resistance.</li> </ul>	<ul style="list-style-type: none"> <li>● Suitable for processing most ferrous and non-ferrous metals.</li> <li>● Suitable for a variety of processing techniques such as turning, milling, drilling, boring, honing, etc., especially suitable for use in modern CNC machining centres.</li> <li>● pH value is neutral, which can meet the needs of the electronics industry.</li> </ul>

## TECHNICAL DATA

Product	Appearance	Appearance @ 5% Dilution	Recommended Concentration		Specific Gravity @ 20°C	pH @ 5% Dilution	Cu Corrosion @55°C 8h, Level	Al Corrosion @55°C 8h, Level
<b>SCF 500ND PLUS</b> Emulsion	Yellow Translucent Liquid	White Emulsion	Turning / Milling	4.0-6.0%	0.9536	9.44	≤B	≤B
			Drilling / Tapping	8.0-10.0%				
<b>SCF 209 PLUS</b> Semi-Synthetic	Yellow Translucent Liquid	White Micro Emulsion	Turning / Milling /	5.0-12.0%	1.0123	9.13	N/A	≤B
<b>SCF 382 PLUS</b> Semi-Synthetic	Yellow Transparent Liquid	Light Yellowish White Transparent Liquid	Turning / Milling /	5.0-10.0%	1.0188 (Typical)	9.0-10.0	≤B	N/A
<b>SCF 383 PLUS</b> Fully-Synthetic	Light Yellow Transparent Liquid	Colourless Transparent Liquid	Turning / Milling / Drilling / Tapping	5.0-20.0%	1.0536	8.6	Cast iron strip rust test @5% dilution: PASS	
<b>SCF 998 PLUS</b> Fully-Synthetic	Light Yellow Transparent Liquid	Colourless Transparent Liquid	Turning / Milling	5.0-8.0%	1.0584 (Typical)	7.70	A	A
			Drilling / Tapping	8.0-15.0%				

Note: For detailed technical data and health and safety data, please contact the Customer Service Department of Jaeger Oil & Chemical Co., Ltd.



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