

Product Manual

Committed to Performance, Reliability, and Innovation



InnoChem Inc.

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Company Overview

InnoChem was founded in 1996 in Pennsylvania, USA by Dr. Johnson Chen. The company is dedicated to the technological innovation of environmentally friendly tin plating solutions and chemicals for steel and metal processing.

Our core business includes:

- Environmentally friendly tin plating chemicals
- Rolling oils for cold and hot rolled steel.
- Cutting and grinding fluids for metalworking
- Industrial cleaners, quenching fluids, and more

With nearly 30 years of deep industry experience, InnoChem has earned widespread customer recognition for its outstanding product performance, reliable technical support, and strict quality standards. The company is licensed for hazardous chemical management.

Today, InnoChem boasts an international R&D team of four Ph.D. chemists and holds proprietary formulations for over 8,000 specialty chemical products. We are committed to delivering high-performance, customized solutions to customers worldwide.



World-Class R&D Powering Global Technical Collaboration

InnoChem boasts world-class R&D capabilities in tin plating, lubrication, corrosion protection, and industrial cleaning. With advanced technology centers and deep technical expertise, we actively drive innovation and maintain strong partnerships with leading companies across the U.S., China, India, and South Korea. Our mission is to deliver high-performance products and integrated solutions for critical industries such as automotive and steel.



Leveraging our core technologies, InnoChem provides proprietary formulations and process know-how for rolling oils, cutting fluids, and tin plating chemicals—empowering our partners to enhance product performance, accelerate innovation, and expand market presence.

Selected Success Technical Collaboration

Cases:

1. South Korea – Buhmwoo

Partnered with Buhmwoo, South Korea's leading metalworking chemical company, to deliver core cutting fluid technologies—significantly boosting product performance.

2. United States – US Steel

Supported a U.S.-based manufacturer in developing cold rolling oils, successfully implemented on the tinplate production lines at US Steel Midwest.

3. China – Baotou Weifeng Silicon Steel

Delivered full technology packages for rolling oils, hydraulic fluids, and temper fluids to a major Chinese chemical company. These solutions were successfully deployed at Baotou Weifeng and adopted by multiple domestic cold rolling plants.

4. China – Jiangsu Youfu Thin Plate Technology

Co-developed a next-generation MSA-based tin plating system with a local partner. The technology has been successfully launched at Jiangsu Youfu, demonstrating stable performance and process maturity.



01 Tin Plating Chemicals

InnoChem is a global pioneer in methane sulfonic acid (MSA)-based tin plating technology. Our MSA-based metal salts are widely used in the metal finishing and electronics industries, offering high performance across a broad range of electroplating processes.



Today, InnoChem provides a comprehensive tin plating chemicals that support the entire plating line—enabling customers to build efficient, stable, and environmentally responsible systems. MSA technology has proven especially effective in tinplate applications for the packaging industry. It not only significantly reduces tin consumption, but also minimizes environmental impact, making it an ideal choice for green, sustainable manufacturing.

Core Advantages of MSA-Based Plating:

➤ High Uniformity & Density

Produces fine-grained, compact, and high-quality tin deposits.

➤ Simple Operation

Easy solution analysis and process control

➤ Wide Operating Window

Stable under varying production conditions

➤ Cost Efficiency

Reduces overall operating costs and improves resource utilization.

Product Portfolio:

➤ Methane Sulfonic Acid

– MSA 70%

➤ Tin(II) Methane sulfonate Solution

– TinMS300, TinMS400, TinMS400DA5

➤ Instant-Dissolving Tin Oxide Paste

– Neutrastan, Stannox

➤ Plating Line Cleaner

– EC66

➤ Grain Refiners

– Stannolite MW, Stannolite RR

➤ Antioxidants

– Stannolite SRA





02 Rolling Oils

At InnoChem, we understand the diverse challenges faced by the steel industry—from varying production environments and equipment conditions to increasingly stringent quality requirements. Our team of steel process specialists and formulation chemists works closely with customers to develop customized lubrication solutions that are efficient, reliable, and tailored to real-world operating conditions. Backed by deep expertise in rolling lubrication, InnoChem delivers more than just high-performance fluids. We also support system design, testing, and integration—providing complete, chemistry-to-application solutions that help optimize mill operations. Our in-depth understanding of the rolling process allows us to improve lubrication performance while extending roll life, reducing fluid consumption, and enabling more efficient and sustainable production.



Key Customer Benefits:

- Increased mill productivity
- Cleaner strip surfaces and equipment
- Lower energy consumption during rolling
- Extended roll life and reduced roll replacement frequency
- Reduced lubricant usage and waste treatment costs
- Fewer product defects and more consistent quality

Product Portfolio:

- Cold Rolling Oils for Steel
- Hot Rolling Oils for Steel
- Temper Fluids
- Hot Rolling Oils for Aluminum



03 Cleaners

InnoChem's cleaning solutions are engineered by a team of formulation experts with deep technical know-how in industrial degreasing and surface preparation. We understand the pivotal role that precision cleaning plays in improving process reliability and overall production efficiency—especially in complex metalworking environments.

To deliver the most effective solutions, we take a systematic, application-driven approach. Each cleaning formulation is tailored through in-depth analysis of:

- Contamination type
- Substrate materials
- Cleaning system and equipment
- Downstream process requirements
- Operating conditions

This ensures every solution offers the optimal balance of technical performance, operational efficiency, and environmental compatibility.

Product Portfolio:

- Steel Surface Cleaners
- Metalworking Cleaners



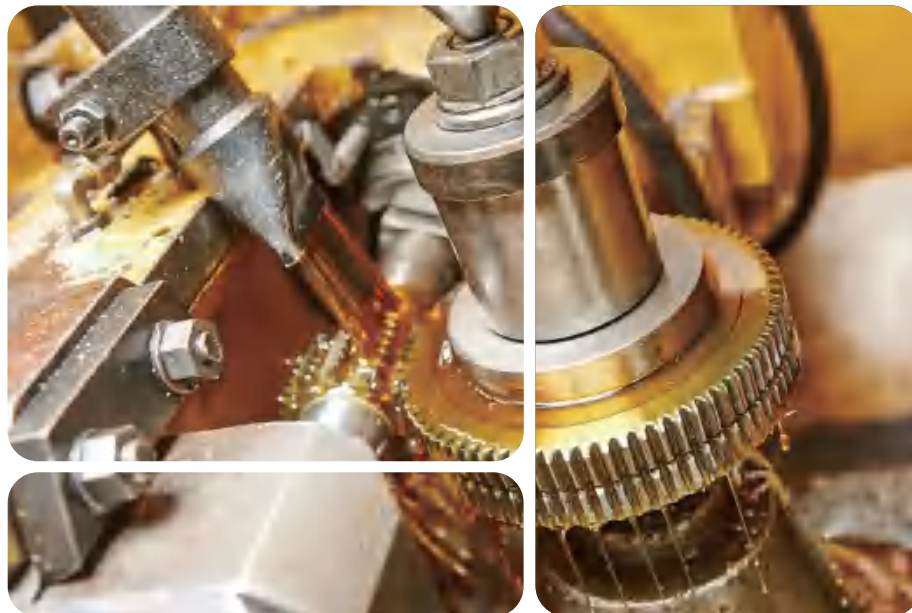


04 Cutting Oils & Fluids

InnoChem delivers a comprehensive portfolio of high-performance cutting fluids for industries such as automotive, precision components, bearings, and general machinery. Our product line includes straight oils, emulsions, semi-synthetic, and fully synthetic fluids—designed to meet a full spectrum of machining needs, from light-duty operations to high-intensity cutting.

Formulated for versatility and efficiency, our fluids support precision machining of a wide range of materials, including:

- Cast iron & compacted graphite iron (CGI)
- Stainless & carbon steels
- Aluminum, titanium, nickel, and copper alloys
- Superalloys & carbides
- Glass and composite materials



InnoChem fluids offer excellent cooling, lubrication, and long-term stability—even under demanding conditions. All products comply with rigorous industry standards and are backed by expert technical support and laboratory resources for customized guidance.

Customer Benefits:

- Superior cutting performance and process consistency
- Enhanced equipment efficiency and machining accuracy
- Reduced overall operating and maintenance costs.



05 Quenching Oils & Fluids

InnoChem offers high-performance quenching solutions for the automotive, aerospace, bearing, and commercial heat treatment industries. Our products are engineered to meet demanding metallurgical specifications while minimizing distortion and deformation during the heat treatment process. With a team of seasoned chemists, metallurgists, and application specialists, we work closely with customers to develop customized quenching media tailored to specific materials, processes, and production environments—ensuring stable, repeatable results.



Key Benefits:

- Precise control of metallurgical properties and microstructure
- Reduced distortion and deformation during quenching
- Enhanced thermal processing efficiency and throughput
- Lower total operational and processing costs

Product Portfolio:

- Cold Quenching Oils
- Hot Quenching Oils
- Polymer-Based Quenchants



06 Hydraulic Oils

InnoChem offers a comprehensive range of fire-resistant and specialty hydraulic fluids, engineered for long service life, high energy efficiency, and reduced environmental impact. Designed to perform under demanding industrial conditions, our hydraulic oils ensure stable, reliable, and efficient system operation.

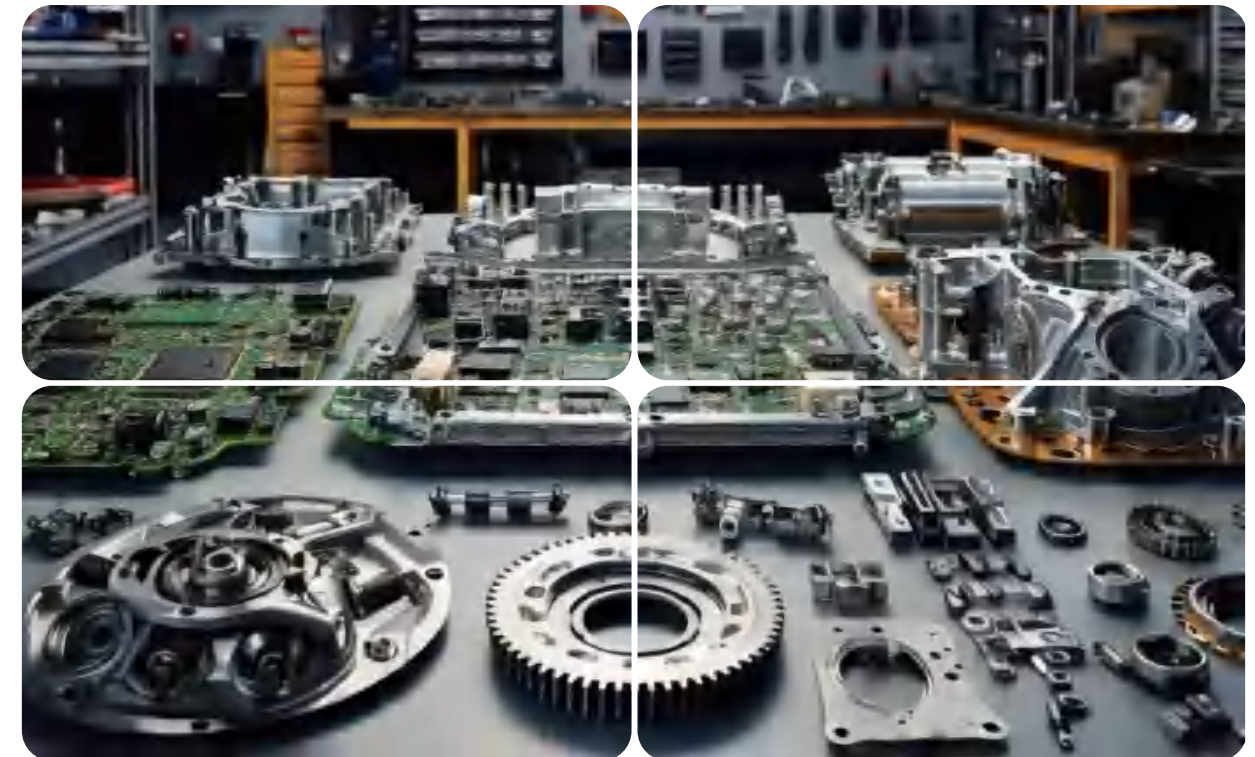
Key Application Areas:

- Emulsion fluids for mining hydraulic supports
- Fire-resistant hydraulic oils for high-risk environments
- General-purpose industrial lubricants



Core Advantages:

- Extended equipment lifespan and reduced component wear
- Lower maintenance costs and downtime
- Improved energy efficiency and system performance
- Enhanced operational safety and worker health protection



07 Forming Oils

InnoChem's forming fluids provide superior lubrication, cooling, and corrosion protection throughout metal stamping and deep drawing processes. Designed to enhance process efficiency and stability, our solutions help improve product quality and boost production performance.

We serve critical industries including automotive, component manufacturing, tubing and piping, and metal packaging (can making) with a comprehensive portfolio of industry-leading forming fluids.

Product Range:

- Stamping Oils
- Drawing Oils
- Can Cup Oils

Our forming fluids optimize friction control, temperature management, and corrosion resistance, supporting smoother operations and higher throughput.





08 Rust Preventive Oils

Corrosion and rust are common threats to metal surfaces such as machined parts, coils, blanks, and stamped components. Factors like high humidity, contamination, and uneven coating can degrade product quality and disrupt production.

InnoChem offers a full range of rust preventive solutions—including solvent-based, oil-based, and water-based formulations—providing reliable protection for both indoor and outdoor environments during production and storage. Our products are fully compatible and meet stringent technical and environmental standards.

Supported by advanced laboratories and expert teams, we collaborate closely with customers to develop customized corrosion protection strategies. This approach helps reduce unplanned downtime, minimize scrap and rework, improve yield, and ensures excellent compatibility with downstream processes such as welding, phosphating, electrophoretic coating, and bonding/sealing.

Product Portfolio:

- Rust Preventive Oils for Steel
- Rust Preventive Oils for Metalworking



09 Rod and Wire Lubricants

InnoChem delivers customized high-performance lubricants for non-ferrous rod and wire manufacturers. Whether processing coarse rods or ultra-fine wires, our advanced synthetic formulations set the industry standard for quality and reliability.

Backed by a skilled technical team and ongoing innovation, our lubricants adapt to complex operating conditions and diverse production needs—enabling customers to maintain stable, efficient, and consistent manufacturing.

Product Portfolio:

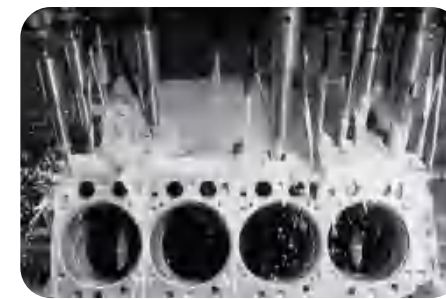
- Rod Rolling Lubricants
- Wire Drawing Lubricants



10 Die Casting Chemicals

InnoChem combines a comprehensive product range, deep process knowledge, and extensive industry experience to deliver complete die casting solutions that significantly boost casting performance.

We focus on leading-edge die casting release agents, plunger lubricants, and tailored support services. Our products are precisely customized to meet varied process demands, helping customers overcome production challenges,



enhance product quality and efficiency, reduce overall costs, and achieve superior environmental compliance.

Our portfolio features water-based and soluble lubricants formulated with advanced reactive smart polymer technology—developing next-generation release agents that deliver exceptional mold release and protection.

11 Surface Treatment Chemicals

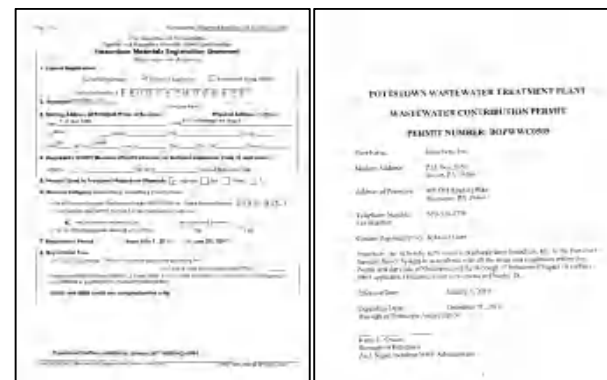
InnoChem's chemical specialists work closely with customers to develop customized surface treatment solutions tailored to specific applications. Our key **products include:**

- Passivation: Applied after pickling or cleaning, these form a stable, dense protective layer that enhances corrosion resistance, prevents secondary rust or oxidation, and provides an ideal base for subsequent coatings or adhesives.
- Pickling Inhibitors: Added to pickling solutions to minimize excessive acid corrosion of the metal substrate, effectively removing oxide scale and rust while protecting the metal's surface integrity.





★ Certificates



Quality Management System Internal Audit Checklist				
Date of Audit: 5/25/2020				
Auditor: Sarah Chen				
Area	Checklist	Rating (Y)	Procedure #	Comments
		Target	Actual	Notes
Management (2 detailed questions)		5	5	3 procedures
Customer (2 detailed questions)		5	5	3 procedures
Planning (2 detailed questions)		5	5	3 procedures
Documentation (2 detailed questions)		5	5	3 procedures
Training (2 detailed questions)		5	5	3 procedures
Quality System (2 detailed questions)		5	5	3 procedures
Auditing (2 detailed questions)		5	5	3 procedures
Continual Improvement - Internal (2 detailed questions)		5	5	3 procedures
Production (2 detailed questions)		5	5	3 procedures



★ Business Partners

