PERKINS PRODUCTS, INC.

Manufacturer of Industrial Lubricants

Solutions for Superior Quality



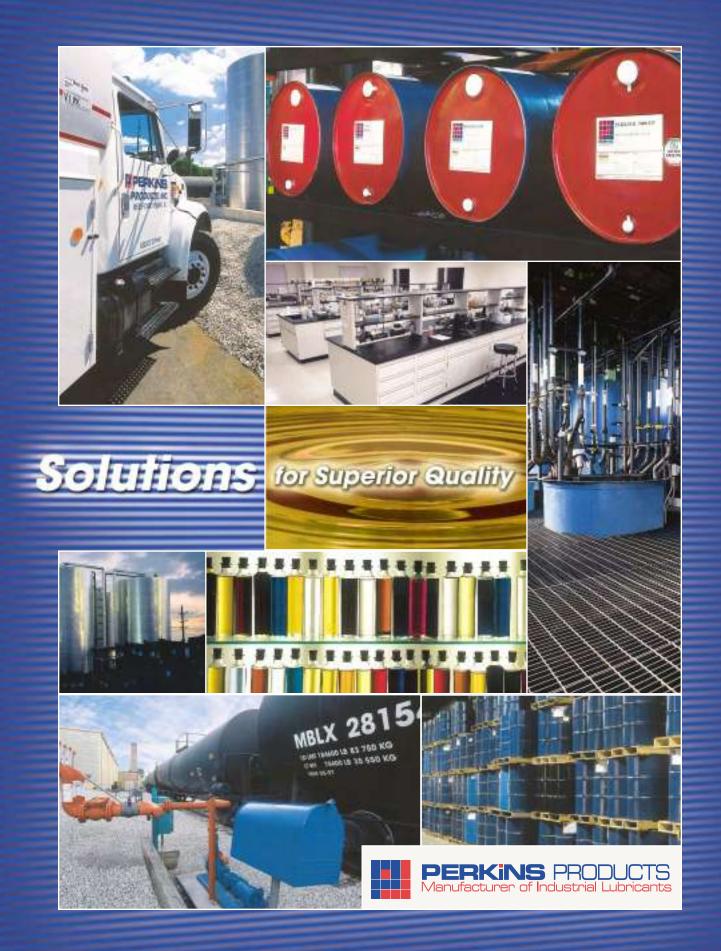
Perkins produces a complete line of lubricants, industrial oils and cleaners to assist in the top quality production of metals, metal parts and industrial components. Every product is designed, manufactured and quality controlled by skilled personnel using the most advanced technological equipment available.

See the chart below for a quick-reference guide to our complete line, or ask about a custom formulation!

Quick Reference Guide							
CATEGORY	APPLICATION		DESCRIPTION				
PERKOOL PRI-COOL	 Broaching Drilling CNC Machining Grinding Cutting Creepfeed Grinding 	 Saw Cutting Tapping Turning Honing Gear Shaping Gun Drilling 	Water-soluble metalworking fluids designed around the safety of the machine operator as well as cost effectiveness. All Perkools have excellent rust protection, superior bacterial inhibition and outstanding heat dissipation. The Perkool line includes synthetics, semi- synthetics, soluble oils, micro-emulsions.				
PERKLEEN PRI-CLEAN	 In-Process Parts Floors Walls Lights 	MachineryFinished PartsVehicles	Cleaners for all uses, parts cleaning, machine cleaning, vehicle cleaning, and all your general purpose needs. There are four distinct categories; Emulsion, Detergents, Alkalines and Specialty Cleaners.				
PERKUT PRI-CUT	 Broaching Drilling Gear Hobbing Gun Drilling Saw Cutting 	 Screw Machining Tapping Thread Grinding Trepanning Turning 	Straight oil fluids for a variety of machining operations on all metals.				
PERKOTE PRI-COAT	Corrosion protection of in- process or completed piece parts/components	BearingsMachine ToolsSteel Bars	Rust preventives and corrosion inhibitors designed exclusively for the protection of all metals. Perkotes are offered in oil, solvent and water formulations and provide a variety of film coatings.				
PERDRAW PRI-DRAW	DrawingExtrudingForming	LaminatingStamping	Family of products for drawing stamping, forming, extruding, etc. These products combine the most advanced extreme pressure additives with high performance in tooling and finish.				
PERLUBE PRI-LUBE	 Bearings Compressors Engines Gears 	Hydraulic SystemsSpindlesTransmissionsWays	Lubricating products for industrial and commercial machinery and equipment.				
PERCHEM PRI-CHEM	Additives to enhance the performance of all products	CleaningHeat TreatingEDM	Special performance products including solvents, heat treating fluids and special purpose products.				

Contact your Customer Service Representative for a product recommendation!





Letter from the President



Manufacturers of Industrial Lubricants

Perkins Products manufactures, markets and services industrial oils, and lubricants. Our #1 goal is customer satisfaction, which we hope to achieve by supplying quality products and beneficial services. We support this goal with our Underwriters Laboratory ISO registration featuring our quality statement of "Quality with Integrity," and demonstrate our commitment to customer satisfaction through continuous improvement. We believe we have the necessary ingredient

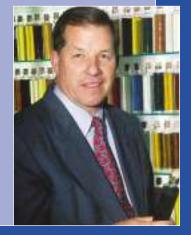
in attaining this goal, and that is a talented and dedicated group of employees.

Perkins Products places a definite emphasis on customer service. Our dedication to service is the best way for us to express our sincere interest in how well you function as a company. We offer our resources to help you best perform to your optimum. Special efforts are taken in the design and manufacture of all of our products, because we believe that quality products are the backbone of satisfied customers and future growth.

Our modern manufacturing equipment, operated by experienced personnel, produces finished products to exacting specifications. All of our industrial oils, lubricants, and specialty products are designed and quality controlled by our highly skilled laboratory personnel using some of the most modern

technological equipment available. We are all dedicated to providing the product you want, when you want it, and at economical prices. So give one of our representatives a call with your metalworking, lubrication, or associated challenges and we will provide well engineered, reliable products and solutions. We think you will be pleased with our quality products, our responsive service and your decision to give us a try.

Richard Pertins



Company Overview

Our Lubricant Solutions Optimize Your Performance

In metalworking, the best definition of a quality lubricant solution is one that helps you optimize your operation—making your tools last longer, your machinery more efficient, your work environment cleaner.

Perkins Products has been providing solutions for metalworking, industrial oil, and lubrication applications since 1983.

Perkins Products manufactures, markets, and services industrial oils and lubricants for CNC machining, steel processing, grinding, plastic injection molding, drawing, screw machining, and a variety of other applications. Whether for metalworking, construction, trucking, or food processing environments, Perkins provides hundreds of reliable products to help you operate at the highest efficiency and performance levels.

In-House Design, Manufacturing, and Testing

Perkins mixes and tests all products on-site at its state-of-the-art Bedford Park plant near Chicago, which houses sophisticated manufacturing equipment operated by experienced personnel. A fully-staffed R&D laboratory accommodates standard and custom formulating. As an ISO 9001 registered company, we offer a Certificate of Analysis and perform 100% testing of all incoming raw materials and finished products. Our emphasis is on the manufacturing of quality products.



Assuring Customer Service

Perkins personnel are committed to providing timely, economical solutions that satisfy your needs both today and after your purchase. Established with your initial contact with one of our friendly and competent customer service or sales representatives, our team works with you to provide consultation, expertise and support. We can also provide you with fluid management, inventory control, and waste minimization programs. We continually assure customer satisfaction through research, education and training, which allows us to provide you with the latest solutions for your applications and requirements.

Every customer has specific needs in order to operate at optimum levels. The following pages illustrate our extensive portfolio of quality products. Each product offers different features and advantages for your complex metalworking, lubrication or cleaning application, but every one is designed to help you maximize your performance. This is our promise to you.

More Than 1,000 Quality Products

Perkins produces a complete line of lubricants, industrial oils, and cleaners to assist in the top quality production of metals, metal parts, and industrial components. Every product is designed, manufactured, and quality controlled by skilled personnel using the most advanced technological equipment available.

See the chart below for a quick-reference guide to our complete line—or ask about a custom formulation.

Page No.	Product	Application		Description
5	PERKOOL	BroachingDrillingCNC MachiningGrinding	Saw CuttingTappingTurning	Emulsion, synthetic and semi-synthetic water-based coolants ideal for clean and efficient machining and grinding
6	PERKLEEN	 In-Process or Finished Parts Floors, Walls, Lights 	• Machinery	Emulsions, Detergents, Alkalines, and Specialty cleaners for cleaning parts, machines, floors, and more
7	PERKUT	 Broaching Drilling Gear Hobbing Gun Drilling Saw Cutting 	 Screw Machining Tapping Thread Grinding Trepanning Turning 	Straight oil fluids for a variety of machining operations on all metals
8	PERKOTE	Corrosion Protection of Bars, Piece Parts, Machine Tools	 In-Process or Completed Piece Parts Steel Bars 	Rust preventatives and corrosion inhibitors designed exclusively for the protection of all metals
9	PERDRAW	DrawingExtrudingForming	LaminatingStamping	Metalworking fluids for extreme pressure or special performance needs including drawing, forming, stamping, etc.
10	PERLUBE	BearingsCompressorsEnginesGears	 Hydraulic Systems Spindles Transmissions Ways 	Lubricating products for industrial and commercial machinery
10	PERCHEM	Additives to assist the performance of all products	Cleaning Heat Treating	Special performance products including solvents, heat treating fluids, and special purpose products



Perkins offers a variety of choices for containers and deliveries.

PERKOOL Coolants for clean, efficient machining and grinding

The **PERKOOLs** are emulsion, synthetic and semi-synthetic, water-based coolants. All Perkools feature excellent rust preventive properties, consistent bacterial inhibition and outstanding heat dissipating qualities. Perkools are the ideal medium for clean and efficient machining and grinding.

Perkools are based on the most modern technology available. Continual laboratory research keeps the Perkools on the leading edge for machining efficiencies, bacterial control and corrosion or stain prevention.

Most Perkools contain varying combinations of anti-weld and lubricity additives to complete a series of coolants that feature a product for virtually every machining and grinding application, using any metal. Within its coolant line, Perkins Products offers a family of biostable coolants that feature excellent resistance to bacteria. These products provide excellent corrosion protection and exhibit superior machining characteristics. The bio-resistance of these coolants is evident in two areas. First, resistance to the growth of bacteria is greater than in a conventional soluble oil. Second, once bacteria does start to multiply, the coolant will not demonstrate the normal signs of bacterial growth. The emulsion will not degrade and odors will not develop in the coolant. These biostable products are excellent for machining all metals.



Above: Biostable coolant flooding machining application

Below: Various parts produced with the assistance of Perkools





Right: Bearing components ground with a Perkool

PERKLEEN Cleaners for diverse applications



The **PERKLEEN** group of products are designed for a wide variety of cleaning applications. Whether your requirement is for cleaning parts, machines, floors, walls, or automobiles, we can provide economical, efficient cleaners for virtually

any application.

The Perkleen products are organized into four categories: Emulsions, Detergents, Alkalines, and Specialty. Each category has its own distinctive characteristics to satisfy specific cleaning requirements. In selecting the proper cleaner, the main considerations are the type of soils being removed, the materials being cleaned, and the equipment available for the task.

For assistance in selecting the best and most efficient cleaner for your requirement, contact your Perkins representative.



Before and after cleaning with Perkleen





High performance oils for machining operations

PERKUTs are straight oil fluids designed for a multitude of machining operations on all metals. Perkuts vary in base oil type, chemical additive makeup, and viscosity, but all are designed for improving efficiencies for

chip formation and metal removal.

The Perkuts are excellent performers from the simplest requirement of turning or sawing to the more



difficult operations of broaching, tapping, thread grinding, gun drilling, or trepanning.

Many specialized additives are used to insure good oxidation stability, low foaming characteristics, anti-mist qualities, efficient anti-weld action, and superior lubricity performance.



Above: Parts machined with Perkut

Above: Gears produced using Perkut

Below: Various machined parts manufactured with Perkut cutting oils



PERKOTE Formulas for rust and corrosion protection



The **PERKOTE** family is an outstanding group of rust preventatives and corrosion inhibitors designed for the protection of all metals. The Perkotes are offered in oil, solvent, and water formulations and provide

a variety of films and coatings to satisfy customer requirements. The majority of the Perkotes are engineered for the protection of ferrous metals. However, special characteristics and features including water displacement, fingerprint neutralizer, thixotropic gel, soft wax, hard resin, petroleum wax, ultraviolet resistance, and acid protection provide several options for indoor or outdoor protection of metals.

Many of the Perkotes meet military specifications and satisfy salt spray and humidity cabinet requirements.

coated

coated



Above: Perkote, as a rust inhibitor applied to centerless ground bar

Right: Perkote being applied to straightening and polishing rolls Half Coated, half uncoated shafts after 60 days — Singleton Humidity Cabinet Test



PERDRAV For extreme pressure or special performance needs

The **PERDRAW** family is a group of extreme pressure, special performance oil and synthetic metalworking fluids that are designed to provide lubrication for drawing, forming, stamping, extruding, and a host of manufacturing operations.

Our continuing technological explorations in the development of synthetic and waterbased fluids have resulted in products that satisfy most manufacturing applications. Whether for ferrous or nonferrous metalworking applications in a variety of environments, the Perdraw group provides solutions in virtually any viscosity, additive type, or vehicle to meet exacting requirements.

Perdraw used for fineblanking application of transmission parts.





Above: High speed cold drawing application of steel bar

Left: Various electronic boards, transmission parts, brackets, and cups formed by balancing, stamping, or drawing

PERLUBE

Lubricants to meet all industrial and commercial machinery needs

The **PERLUBE** series comprises a complete line of lubricating products for industrial and commercial machinery, from machine tools to automotive equipment. The Perlubes include hydraulic and lubricating products, gear oils, transmission



Above: Mass flow meter used for drum filling with accuracy of 1/10 of a percent

Above: Mixing a batch of Perlube AW68

fluids, compressor tubes, way lubricants, and a

> complete selection of greases. Put simply, the Perlube product group can provide a

lubricant for every lubricating requirement.

The Perlubes also include many specialty, high temperature and synthetic products. Found in this group are fire resistant fluids, water-based high temperature chain lubes, specialty lubes for the food processing industry, and synthetic compressor, hydraulic and gear oils.

Many of the Perlubes carry approvals from National Testing Laboratories, and leading machine tool, compressor, and hydraulic pump manufacturers.

PERCHEM Special performance products



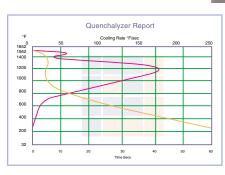
The **PERCHEM** group, designed to meet a variety of requirements, is organized into the following three distinct groups:

Solvents. The solvent group features a complete range

of products from k-1 kerosene to high flash, no flash, quick-dri, and odorless solvents.

Heat treating fluids. This group consists of heat transfer oils, a variety of heat treating oils, and quenching oils.

Special purpose products. The special purpose product family is comprised of tapping fluids, antifoam agents, coolant conditioners, concentrated additives, anti-freeze, and EDM oils.



Drayton Quenchalyzer used for reproducing and reporting the cooling curve of a quench oil



JENTHAR

Laboratory & Technical Services

State-of-the-art Laboratory

Perkins offers an advanced laboratory that accommodates the following full-service capabilities and instrumentation:

- Alkaline or Amine Number
- Free Amine or Free DEA
- Complete Water Test Capabilities
- Karl Fisher Water Test
- Fatty Acid Identification
- Falex Wear Pin & Vee Block
- Spectrophotometric Analysis
- Alkanolamines Determination
- Boron Colorimetric Method
- Water Glycol Hydrometer
- X-ray Fluorescence
- Hiac-Royco Particle Counter
- UV Spectrophotometer
- Microbiology Lab for Challenge Testing
- API Gravity
- Ester Identification
- EPA 4AAP Phenol
- Comprehensive Wear Metals Analysis
- Humidity Corrosion
- Viscosity, Kinematic
- Brookfield Viscometer
- Refractive Index
- Centrifuge Stability
- Conductivity
- Gas Chromatograph
- Formaldehyde Method
- Biocide Determination
- GM Quenchometer
- Quenchalyzer
- ASTM Colorimeter





Phalex Lubricity Tester and Lab with microscope

Complete Technical Services

Our full range of technical services includes:

- Coolant Maintenance
- Selective Depletion Analysis of Coolants and Oils
- In-Process Oil Evaluation
- Manufacturer's Approvals
- Product Cross References
- Product Recommendations
- 100% Inspection of Raw and Finished Products
- Associated Recycling and Waste Hauling Services
- Support with Federal and State Reports
- Certificate of Analysis





Perkins Products, a privately held company, is a leader in the design and manufacture of industrial oils and lubricants. For unique, well engineered solutions to your metalworking needs, call Perkins today and one of our specialists will be happy to discuss your application with you.

PERKINS PRODUCTS Manufacturer of Industrial Lubricants

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