

SAWING AND METAL WORKING FLUIDS

High Performance Fluids To
Optimize Your Sawing Operation

Environmentally Friendly.

Outstanding Lubricity.

Exceptional Cooling.

Extended Tool Life.

Increased Shop Productivity.



LENOX® is a leading supplier of industrial products and services to high production facilities in the metalworking industry. We produce a comprehensive range of **BEST-IN-CLASS** cutting products and complement these with a portfolio of high performance metal removal fluids and delivery systems designed to optimize your machining operations. Our advanced lubricants are used in operations that produce high quality components for the automotive, aerospace, energy, transportation, and construction industries.

MICRONIZER®

Precision Lubricant Applicator

DESIGNED TO DELIVER A SMALL AMOUNT OF LUBRICANT

Aids in tooth penetration and chip formation, reducing heat and improving tool life

PRECISE FLUID PUMP AND AIR PRESSURE CONTROLS

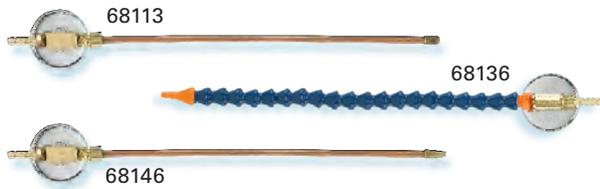
Ensures the correct amount of lubricant is applied to the tool

A VARIETY OF NOZZLES ARE AVAILABLE

The LENOX® Saw Nozzle is recommended for most sawing applications and is standard on the one line unit (product no 68090)

RECOMMENDED FOR PRODUCTION SAWING OPERATIONS

For larger band saw machines using 1-1/4" (34mm) and wider blades



	PRODUCT NO	DESCRIPTION
UNIT	68090	1 Line Unit w/ LENOX® Saw Nozzle, 32 oz (.95 liter) reservoir and manual on/off switch. Works well in band sawing operations
	68150	2 Line Unit, 32 oz (.95 liter) reservoir and manual on/off switch (Order nozzles separately)
ACCESSORIES	68113	Copper Nozzle tube and tip with magnetic mounting base
	68146	Copper Fan Nozzle—Same as 68113, with specially designed tip for wide fluid dispersion
	68136	Flex Nozzle—Flexible, segmented plastic nozzle with magnetic mounting base
	68844	LENOX® Saw Nozzle—Metal nozzle with 3 spray outlets specifically designed for band sawing operations
	68104	Solenoid Valve—110V For 1, 2, 3 nozzle unit with automatic operation. Requires 110 volts AC, single phase, 50/60Hz
	68111	Replacement Reservoir 32 oz (.95 liter)
	68137	The MICRONIZER® Coaxial Line—Air/lubricant line, sold by the foot (300mm)



DELIVERY SYSTEMS

LENOX® has two customizable delivery systems for operations that require Minimum Quantity Lubrication (MQL). There is a growing trend towards reducing the amount of fluid used for cutting operations and these precision applicators effectively reduce coolant consumption, eliminate maintenance, and clean up your operation. When coupled with LENOX® Lube and C/AI Lube, you can eliminate hazardous misting and ensure a safe work environment. The Micronizer® and Micronizer®, Jr. are easy to configure and have the ability to deliver a precise amount of lubricant straight to the cutting tool, which improves cutting performance, extends blade life, enhances finish quality and lowers costs. Consider the following when selecting the micro-lubricant system for your operation:



CHOOSING YOUR MICRONIZER® SYSTEM

If you are using a band saw operation with a blade width of 1 1/4" (34 mm) or wider, the Micronizer® system should be installed. If you are using a band saw operation with a blade width of 1" (27 mm) or narrower, the Micronizer®, Jr. should be used. Both units are suitable for circular sawing, drilling, and tapping operations. (May require a special nozzle.)

Micronizer®

1) Select the number of lines that are needed.

The Micronizer can utilize between one and six lines.

2) Choose the type of nozzle needed for the application.

This system can use the LENOX® Saw Nozzle, flex nozzle, or two types of copper nozzles.

3) Decide if the unit should have a manual shut off (included) or turn on automatically when the machine is operating.

For the automatic operation, a solenoid valve will have to be installed.

4) Select the best fluid for the job.

If you are cutting thin walled tubing or pipe, use LENOX® Lube. If you are cutting metals that require higher lubricity, select C/AI Lube. C/AI Lube can be used for Ferrous and Non-Ferrous Metals and works well when cutting large structural beams and small solids.

5) Using the answers to these installation issues, select the configuration that best suits the application.

Micronizer®, Jr.

1) Choose the reservoir size that best suits the application.

The Micronizer, Jr. can have a 7 oz. or 37 oz. reservoir.

2) Choose the type of nozzle needed.

Flex nozzle, or copper splitter block nozzle.

3) For the 7 oz. unit, select the tubing diameter - 1/8" or 1/4". The 37 oz. unit comes standard with 1/4" tubing. The units with 1/4" tubing have more air volume and include a manual shut off valve.

EFFICIENCY, QUALITY AND CONSISTENCY

LENOX® sawing and metal working fluids are used to machine a variety of metals from Aluminum to High-Strength Steels. Our fluids can dramatically increase the productivity of your shop. LENOX® coolants and lubricants are manufactured with quality and consistency to deliver the following benefits to your cutting operation:

EXCELLENT LUBRICATION

Which reduces frictional heat between the tool and work piece.

EXCEPTIONAL COOLING

For extended blade life.

EASIER TOOTH PENETRATION

Leading to better chip formation, evacuation, and faster cutting rates.

LESS MACHINE WEAR

Which decreases maintenance costs.

MINIMIZED DOWNTIME

Because the fluids require less work to last longer.

IMPROVED PART FINISH

Reduces secondary processing.
No residue stains, corrosion or rust.

ENVIRONMENTALLY FRIENDLY

LENOX® recognizes the importance of environmentally friendly products that enable a safe work environment. Our products do not contain Chlorine, Sulphur, Sulphonates, or any other damaging chemical components. The fluids are designed to be physically and chemically stable for the long term, so it leads to decreased fluid consumption and reduces disposal costs. Our Micronizer® delivery system reduces the amount of fluid used per day, while providing a safe and clean work environment.

LENOX® SYNTHETIC FLUIDS

These formulations provide excellent cooling with the ability to wet the part without the use of oil. They offer the best heat reduction, great rust control, and the longest sump life. Like semi-synthetics, these solutions contain performance additives such as lubrication aids, biocides, and rust inhibitors.

LENOX® SEMI-SYNTHETIC FLUIDS

An emulsion of synthetic oil (~2-30%) and water that provides lubrication, reduced heat, rust protection, and a longer sump life than soluble oils. Additives are used to improve performance and extend life including biocides, corrosion inhibitors, and anti-foaming agents.



LENOX® is **COMMITTED** to

delivering high performance solutions that

deliver **SUPERIOR PERFORMANCE**

and technology.



BAND-ADE®

High-Performance, Semi-Synthetic Sawing Fluid

General Purpose flood coolant designed for light to moderate-duty machining applications involving both Ferrous and Non-Ferrous metals

EXTENDS BLADE LIFE

Increased lubrication aids in chip formation and evacuation

EXCEPTIONAL COOLING

Water-Soluble formulation helps to reduce frictional heat and improves cutting performance

INCREASES PRODUCTIVITY

Faster cutting and reduced machine wear boosts efficiencies

ENVIRONMENTALLY FRIENDLY

Products are biodegradable, safe for the operator to use, and do not contain harmful chemicals like Chlorine and Sulphur

SURFACES CAN BE WELDED AND PAINTED OVER



PRODUCT NO	CONTAINER SIZE		CONTAINERS PER CASE	NFPA CODE SPECS
	GALLON	LITER		
68004	1	3.8	4	HMIS/WHMIS HEALTH INDEX – 0 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A
68005	2-1/2	9.5	2	
68003	5	18.9	—	
68001	55	208.2 drum	—	
68007	275	1,040.9 tote	—	



Not recommended for use as a spray lubricant. Mix this product with water as recommended. Not for use on Magnesium.

SAW MASTER™

High Quality, Synthetic Sawing Fluid

Specially formulated flood coolant for light to moderate-duty applications on Ferrous metals and alloys

LONGER BLADE LIFE. FASTER CUTTING.

Lubricates and cools to get the most from your blade or tool

REJECTS MOST TRAMP OILS

Unwanted oils can be separated and removed to keep the fluid performing longer

EXCELLENT SUMP LIFE

Advanced anti-microbial packages control bacterial growth and prevent rancidity, which lowers fluid replacement costs

CAN BE USED IN MOST HARD WATER APPLICATIONS

Eliminates filtration problems and residue

SURFACES CAN BE WELDED AND PAINTED OVER

LOW TO NON-FOAMING



PRODUCT NO	CONTAINER SIZE		CONTAINERS PER CASE	NFPA CODE SPECS
	GALLON	LITER		
68064	1	3.8	4	HMIS/WHMIS HEALTH INDEX – 1 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A
68061	5	18.9	—	
68062	55	208.2 drum	—	
68063	275	1,040.9 tote	—	



Not recommended for use as a spray lubricant. Mix this product with water as recommended. Not for use on Magnesium.

MSDS available in hard copy or downloadable from www.lenoxtools.com

FLUID REFERENCE CHART

Properties and Applications

LENOX® METAL REMOVAL FLUID	TYPE			METALS				APPLICATIONS					
	FLOOD COOLANT	SPRAY LUBRICANT	MANUAL APPLICATION	USE WITH SOLID METALS	USE WITH STRUCTURAL METALS	USE WITH FERROUS METALS	USE WITH NON-FERROUS METALS	BAND SAWING	CIRCULAR SAWING	DRILLING	TAPPING	MILLING	GRINDING
BAND-ADE®	√			√	√	√	√	√	√	√		√	
SAW MASTER™	√			√	√	√		√	√	√			√
LENOX LUBE®		√		√	√	√		√	√	√	√	√	√
C/AI LUBE		√		√	√	√	√	√	√	√	√	√	√
PROTOOL LUBE®			√	√	√	√	√		√	√	√		

LENOX® METAL REMOVAL FLUID	CHEMICAL PROPERTIES									
	TYPE	COLOR	BIOCIDES	BIO-DEGRADABLE	RUST/CORROSION INHIBITORS	CONTAINS MINERAL OR PETROLEUM OIL	CONTAINS CHLORINE OR SILICONE	CONTAINS SULFUR/SULPHONATES	CONTAINS CARCINOGENS	
BAND-ADE®	Semi-Synthetic	Translucent Pink	Yes	Yes	Yes	No	No	No	No	
SAW MASTER™	Synthetic	Translucent Pink	Yes	Yes	Yes	No	No	No	No	
LENOX LUBE®	Synthetic Emulsion	Translucent Green	Yes	Yes	Yes	No	No	No	No	
C/AI LUBE	Synthetic Oil	Translucent Blue	No	Yes	Yes	No	No	No	No	
PROTOOL LUBE®	Synthetic Emulsion	Translucent Yellow	Yes	Yes	Yes	No	No	No	No	

LENOX® METAL REMOVAL FLUID	PHYSICAL PROPERTIES						
	SOLUBILITY IN WATER	SPECIFIC GRAVITY (H20=1)	pH RANGE	VISCOSITY AT 72F	FLASH POINT	FREEZING POINT	BOILING POINT
BAND-ADE®	100%	1.02	8.8 - 9.2	43 SUS	None	-6C/21F	99C/210F
SAW MASTER™	100%	1.076	9.7 - 10.0	42.7 SUS	None	-12C/10F	99C/210F
LENOX LUBE®	100%	1.015	7.8 - 8.2	60 SUS	None	-7C/19F	99C/210F
C/AI LUBE	Insoluble	0.823	N/A	121 SUS	COC 290F	N/A	N/A
PROTOOL LUBE®	100%	1.03	8.0 - 8.5	500 SUS	None	-25C/-13F	99C/210F

DILUTION RATIO*	FLUID CONTENT	WATER CONTENT	APPLICATIONS
5:1	20%	80%	Heavy-Duty Sawing, Difficult Milling
10:1	10%	90%	Moderate to Heavy-Duty Sawing, Drilling, Tapping and Milling
20:1	5%	95%	Light-Duty Sawing
30:1	3%	97%	Grinding, Light-Duty Work

*Dilution rates are for flood coolants only. LENOX® recommends 5:1 or 10:1, depending on the severity of the operation.



MAINTENANCE

Taking the time to properly maintain your fluids will keep the products working well longer. Over time, the chemical and physical properties of the coolant can change as water evaporates and contaminants get into the sump. Following these steps will extend the life of the product, which will minimize downtime and decrease the cost of the operation.

1) Monitor the concentration and pH of the fluid.

If the concentration becomes too high, it can lead to foaming and residue formation. If the concentration falls too low, it can decrease lubricity and give bacteria the chance to grow. The increased levels of bacteria can give the sump a foul odor. Controlling the concentration and pH level will keep the level of bacteria at a minimum making the solution more effective and the environment more tolerable.



2) As the concentration of the fluid changes, take steps to restore the original dilution ratio.

Do not add straight water to the solution. A pre-mixed blend of coolant and water should be added to the sump. The solution should be added based on readings obtained from your refractometer. *(Details below).*

3) Remove tramp oil regularly with a skimmer or filtration system.

Tramp oils will separate from the solution and float to the top of the sump. They can be damaging to the solution and decrease the effectiveness if they are not removed.

4) Keep the sump free of contaminants.

The presence of chips, swarf, dirt, food, and trash can impact the pH of the system and allow bacteria to grow.

5) Aerate the coolant when not in use.

Mixing the coolant or installing an air pump will prevent the growth of anaerobic bacteria and will eliminate foul odor.

6) Clean the system.

Use LENOX® Machine Cleaner (EDP# 68006) between charges.

REFRACTOMETER

Measures Sawing Fluid Concentration

IMPROVE FLUID EFFECTIVENESS

Maintaining the proper water to fluid ratio increases tool life and ensures performance of the fluid over a longer period of time

EASY TO USE AND CALIBRATE

Monitor the fluid concentration and adjust as needed to extend sump life

PRODUCT NO	DESCRIPTION
69012	Refractometer



LENOX® LUBE®

Clean, Synthetic Lubricant for Spray Applications

Advanced formula enables superior cutting performance when Minimum Quantity Lubrication (MQL) is required

EXTENDS TOOL LIFE

Extreme pressure lubricant reduces frictional heat, prevents chip welding, and delivers an excellent part finish

CLEAN AND ENVIRONMENTALLY FRIENDLY

Synthetic, water based formulation is safe for the shop and operator

REDUCES COSTS

No disposal costs and use only ounces per day

OPTIMUM PERFORMANCE ON FERROUS METALS

Use with our Micronizer systems to lubricate Carbon/Alloy steels and stainless steels. Works best on pipe and thin-walled tubing

SURFACES CAN BE WELDED AND PAINTED OVER



Easily cut structural metals when used with LENOX® RX+ blades.

PRODUCT NO	CONTAINER SIZE		CONTAINERS PER CASE
	GALLON	LITER	
68014	1	3.8 container	4
68018	5	18.9 container	—
68017	55	208.2 drum	—
68016	275	1,040.9 tote	—

Use this product as it comes from the container—do not mix with water.

NFPA CODE SPECS

HMS/WHMIS
 HEALTH INDEX – 0
 FLAMMABILITY – 0
 REACTIVITY – 0
 PERSONAL PROTECTION – A



C/AI LUBE

High Lubricity Formulation for Spray Applications

Synthetic oil formulated for cutting solids and structurals in a Near Dry Machining (NDM) application

WORKS EFFECTIVELY ON ALL TYPES OF MATERIALS

Used on a variety of steels and Non-Ferrous metals. Works well on large structural beams, small solids, and all shapes of aluminum (billets, plates and castings)

INCREASED PRODUCTIVITY

Enhanced lubrication for higher cutting speeds and feed rates

EXTENDS TOOL LIFE

Enables tooth penetration and chip formation, which decreases wear on the machine and blade

CONTROL COSTS

Decreases the volume consumed and lowers replacement costs when used with our Micronizer systems



PRODUCT NO	CONTAINER SIZE		CONTAINERS PER CASE
	GALLON	LITER	
68024	1	3.8 container	4
68026	5	18.9 container	—
68025	55	208.2 drum	—
68028	275	1,040.9 tote	—

Use this product as it comes from the container—do not mix with water.

NFPA CODE SPECS

HMS/WHMIS
 HEALTH INDEX – 0
 FLAMMABILITY – 1
 REACTIVITY – 0
 PERSONAL PROTECTION – A



MSDS available in hard copy or downloadable from www.lenoxtools.com



LENOX® MACHINE CLEANER

Prepares Your Sump for the use of LENOX® Sawing Fluids

CLEANS THE MACHINE BETWEEN CHARGES

Eliminates bacteria and fungi.

EXTENDS THE LIFE OF THE SAWING FLUID

Helps loosen dirt and contaminants for easier removal and a cleaner system.

PREVENTS CONTAMINATION WHEN CONVERTING FLUIDS



PRODUCT NO	CONTAINER SIZE		CONTAINERS PER CASE	NFPA CODE SPECS
	GALLON	LITER		
68006	1	3.8	4	HMIS/WHMIS HEALTH INDEX – 1 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A
<i>For industrial use only. Mix this product with water as recommended</i> <i>MSDS available in hard copy or downloadable from www.lenoxtools.com</i>				



LUBE TUBE

Manually Applied Lubricant Stick

EXTREME PRESSURE LUBRICANT

Prevents the build-up of frictional heat and dissipates after use

DESIGNED TO BE APPLIED TO BAND SAW BLADES AND OTHER CUTTING TOOLS

Improves overall tool life and productivity when sawing, drilling, milling, grinding, threading or tapping. Works well on abrasives (belts, sanding discs and pads)

CAN BE USED ON FERROUS AND NON-FERROUS METALS, ALUMINUM GATES AND RISERS, PLATES AND EXTRUSIONS

BIODEGRADABLE, NON-TOXIC AND NON-STAINING



PRODUCT NO	CONTAINER SIZE		TUBES PER CASE	NFPA CODE SPECS
	OUNCES	GRAMS		
68020	14.5	411.1	12	HMIS/WHMIS HEALTH INDEX – 0 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A
				

PROTOOL LUBE®

Extends Tool Life

A UNIQUE SYNTHETIC EMULSION DESIGNED TO INCREASE TOOL LIFE

When cutting, milling, reaming, tapping and drilling metal, wood and plastics

SHORTENS CUTTING TIME BY UP TO 50%

Provides smoother, cleaner cutting and dramatically longer blade life

REDUCES HEAT AND FRICTION

Water-soluble, so it cleans up with water

BIODEGRADABLE AND NON-TOXIC

EASY TO USE, FLIP-TOP BOTTLE FITS IN YOUR TOOL BOX



PRODUCT NO	DESCRIPTION	NFPA CODE SPECS
68040	6 oz / .17 liter bottle PROTOOL LUBE® (12 per pack)	HMIS/WHMIS HEALTH INDEX -1 FLAMMABILITY -0 REACTIVITY -0 PERSONAL PROTECTION - A
68047	1 gallon / 3.8 liter container PROTOOL LUBE®	
68048	5 gallon / 18.9 liter container PROTOOL LUBE®	
68050	55 gallon / 208.2 liter drum PROTOOL LUBE®	

Use this product as it comes from the container—do not mix with water.



ANTI-SPLATTER

Wipe Away Welding Splatter

SAFE TO USE

Non-Toxic, Non-Explosive, Non-Combustible, and Non-carcinogenic. No silicone or chlorine. No CFC's

ADVANCED 14 OUNCE CAN

Naturally compressed air (no propellants), easy to hold and use even with gloves.

SPRAYS UPSIDE DOWN

NO WASTED PRODUCT

Full use of all 14 ounces

PROTECTS JIGS AND FIXTURES



PRODUCT NO	CONTAINER SIZE		CONTAINERS PER CASE	NFPA CODE SPECS
	GALLON	LITER		
69040	14 oz	397 gram compressed air can	12	HMIS/WHMIS HEALTH INDEX -1 FLAMMABILITY -0 REACTIVITY -0 PERSONAL PROTECTION - A
69041	33 fl oz	946 ml trigger spray bottle	12	
69039	1	3.8 container	4	
69038	5	18.9 container	—	
69037	55	208.2 drum	—	



MICRONIZER®, Jr.

Lubricant Applicator

PORTABLE DESIGN FOR USE ON MANY APPLICATIONS

Strong mounting magnets hold unit in place, but allow it to be moved to different machines

FOR SMALLER BAND SAW MACHINES AND OTHER MACHINE TOOLS

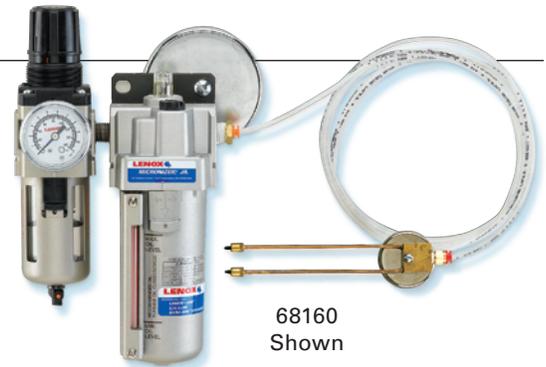
A clean, economical method of providing lubrication

CONVENIENT DESIGN

Choice of two reservoir capacities, 7 oz. (200ml) or 37 oz. (1.1liter)

SEVERAL NOZZLE STYLES AVAILABLE

The unit is customizable to enable an effective installation in a wide variety of cutting or machining operations



68160
Shown

	PRODUCT NO	DESCRIPTION
UNIT	68158	7 oz MICRONIZER®, Jr. with Flex Nozzle 6' (1.8m) long, 1/8" (3mm) air line tubing
	68258	7 oz MICRONIZER®, Jr. with Flex Nozzle & Fluid Shut-Off Valve, 6' (1.8m) long, 1/4" (6mm) air line tubing
	68160	7 oz MICRONIZER®, Jr. with Copper Nozzle, 6' (1.8m) long, 1/8" (3mm) air line tubing
	68260	7 oz MICRONIZER®, Jr. with Copper Nozzle & Fluid Shut-Off Valve, 6' (1.8m) long, 1/4" (6mm) air line tubing
	68159	37 oz MICRONIZER®, Jr. with Flex Nozzle, 6' (1.8m) long, 1/4" (6mm) air line tubing
	68161	37 oz MICRONIZER®, Jr. with Copper Nozzle, 6' (1.8m) long, 1/4" (6mm) air line tubing
ACCESSORIES	68135	Flex Nozzle for 7 oz MICRONIZER®, Jr.—Plastic, flexible nozzle with 6' (1.8m) long, 1/8" (3mm) air line tubing
	68813	Fluid Shut-Off Valve for 7 oz MICRONIZER®, Jr.—Used at the air output to maintain prime of unit
	68121	Splitter Block Style Nozzle for 7 oz MICRONIZER®, Jr.—With 2 copper tubes, rubber nozzle tips, and air line quick release fitting for 1/8" (3mm) air line tubing
	68142	Flex Nozzle for 37 oz MICRONIZER®, Jr.—Plastic, flexible nozzle with 6' (1.8m) long, 1/4" (6mm) air line tubing
	68825	Fluid Shut-Off Valve for 37 oz MICRONIZER®, Jr.—Used at the air output to maintain prime of unit
	68141	Splitter Block Style Nozzle for 37 oz MICRONIZER®, Jr.—With 2 copper tubes, rubber nozzle tips, and air line quick release fitting for 1/4" (6mm) air line tubing

For more information about MICRONIZER® Accessories and Repair Parts, call LENOX® Technical Support at 800-642-0010

Customer Service: 800-628-8810
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