

# MICROLUBRICATION TECHNOLOGIES



MICRO LUBRICANTS

YOUR SINGLE SOURCE SUPPLIER OF METALWORKING FLUIDS

## MICROLUBRICATION

**MICROLUBRICATION** or Minimum Quantity Lubrication (**MQL**) is the process of machining or forming metal with very small amounts of **MICROLUBRICANT** without the presence of water. In essence a near-dry process! These “**MICROLUBRICANTS**” vary in their chemistry but when combined with our **MICROLUBRICANT** dispenser offer a revolutionary “system approach” to the metalworking industry with numerous cost savings benefits.

These benefits include vastly reduced lubricant and maintenance costs with a simultaneous increase in tool life and part finishes.

Other benefits include the elimination of metal corrosion, rancid coolant, and reclamation equipment. The metal chips produced in **MICROLUBRICATION** are “dry” compared to flood coolant and easier to process. Machine tools, machined parts, and the operator’s work area are all cleaner and safer.

**MICROLUBRICATION** is the ultimate of Green Chemistry and consistent with Metalloid’s corporate initiative to help improve the global environment.

## MICROLUBRICATION PRODUCTS

### BOTANICAL GREEN



**MICROLUBRICANT ML-450**

Medium-duty minimal quantity for steel and aluminum alloys.



**MICROLUBRICANT ML-625**

Heavy-duty minimal quantity lubricant for steel and aluminums.

### BOTANICAL SYNTHETIC HYBRID

**MICROLUBRICANT ML-350**

Heavy-duty minimal quantity lubricant for steel and aluminums.

### WATER SOLUBLE SYNTHETIC



**MICROLUBRICANT ML-700**

Heavy-duty minimal quantity lubricant for cutting and forming of all metals.

### SYNTHETIC POLYMER



**MICROLUBRICANT ML-156**

Heavy-duty minimal quantity lubricant for carbon steel, stainless and cast aluminum.



**MICROLUBRICANT ML-600**

Light to medium-duty minimal quantity lubricant for soft metals.

**MICROLUBRICANT ML-725**

Heavy-duty minimal quantity lubricant for steel and aluminum.

## OTHER PRODUCTS



### ADDVANCE BOTANICAL HAND CLEANER

Heavy-duty, waterless or water dilutable detergent for hand washing in the machine shop or any industrial facility.



### RUST PREVENTATIVES- Water Based



METCOR 52- An oil free, water based, biodegradable, indoor rust preventative for all metals.

METCOR 57- A solvent based rust preventative for long-term indoor protection of ferrous and non-ferrous metals.

METCOR 71- A indoor / outdoor botanical rust preventative with very light residue.



### CLEANERS

METKLEEN 2080- low alkaline cleaner for all metals.

METKLEEN 2120- low alkaline, hot tank cleaner for all metals.



METKLEEN 2140- heavy-duty floor and all purpose maintenance cleaner.

METKLEEN 2150- high alkaline, aqueous cleaner for ferrous metals.



METGREEN- Non-aqueous green cleaner.



**REFRACTOMETERS** -Hand held, light weight, digital reading, extremely accurate. Easy to use and calibrate.

### MAINTENANCE FLUIDS

Our maintenance fluids are formulated to maximize equipment efficiency and operations by using group II base oils; assisting in longer life of servos, tighter tolerances in ways and beds and cleaner overall performance.

WAYLUBE 220

WAYLUBE 68

WAYLUBE 32

SPINDLE OIL #2

SPINDLE OIL #6

SPINDLE OIL #10

HYDRAULIC OIL 32 A

HYDRAULIC OIL 46A

MET HYDRAULIC 68

GEAR OIL 90

GEAR OIL 220



GREEN HUMMINGBIRD GREASE



## ABOUT METALLOID

Since 1951 Metalloid Corporation has formulated high-quality metalworking fluids and compounds. We formulate, manufacture, market and service a full range of metalworking fluids including, but not limited to, coolants for machining and grinding, drawing and stamping compounds, corrosion inhibitors and cleaners. Our goal is to provide our customers increased productivity through proper fluid selection and application which reduces waste and down time on equipment. Metalloid offers products formulated with consideration for safety, health and the environment.



*ONE SOURCE... ONE SOLUTION...*

*ONE WORLD*

No one understands metalworking fluids better than Metalloid, so no one else can bring you advanced technology that works on the issues that matter to you. Get the whole story by calling Metalloid at **800.686.3201**.

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**WWW.METALLOIDCORP.COM**

# MicroLubricant ML-450 Minimum Quantity Lubrication Medium Duty MQL For Steel and Aluminum Alloys



**USDA  
CERTIFIED  
BIOBASED  
PRODUCT**  
PRODUCT 98%

## Product Description

**MicroLubricant ML-450** is a naturally derived minimal quantity lubricant typically applied in "drops" to eliminate traditional flood coolant applications. **MicroLubricant ML-450** is ideally suited for near dry machining operations. **MicroLubricant ML-450** is an excellent choice for tough aluminum alloys, tool steels and super alloys. **MicroLubricant ML-450** is the ideal replacement for any operation using water dilutable coolants.

## Benefits

- Heat Treatable
- Improves air quality – no misting
- Eliminates coolant maintenance
- Eliminates staining on sensitive metals
- Eliminates corrosion
- 100% Biodegradable
- Eliminates post cleaning process
- Produces dry chips – easier to process
- Eliminates rancidity and odors
- Cost effective
- Eliminates costly additives
- Eliminates petroleum oils
- Eliminates mixing/measuring
- Reduces friction and heat
- Eliminates smoke and oil residue
- Faster machining – Improved finishes
- Eliminates coolant waste
- Eliminates tramp oils

## Applications

All metal operations benefit from MQL due to the unique lubrication properties, including but not limited to the specific operations listed below:

- Sawing & Cut-Off
- Deep hole drilling
- General and CNC Machining
- Vacuum forming – Mold Release
- Rollforming
- Injection molding
- Spinning
- Metalforming operations

## Directions for Use

**MicroLubricant ML-450** is used as received. The lubricant is typically applied directly to the cutting tool through an adjustable applicator that does not atomize.

**MicroLubricant ML-450** must contact the tool before cutting or forming begins.

Increasing the feed rate eliminates hot parts and reducing the feed rate eliminates hot tooling.

## Packaging

**MicroLubricant ML-450** is available in 1 gallon containers, 5 gallon pails, 55 gallon drums and 330 gallon



### PROPERTIES

Appearance	Orange, clear liquid
Odor	Bland
Water Solubility	N/A
pH	N/A

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## MicroLubricant ML-625

### Minimum Quantity Lubrication Botanical MicroLubricant for Steel and Aluminum Alloys



#### PRODUCT DESCRIPTION

MicroLubricant ML-625 is a 100% botanically derived (green), microLubricant. This minimal quantity lubricant is applied in "drops" to eliminate traditional flood coolant applications. MicroLubricant ML-625 is ideally suited for near dry machining (NDM) operations. This lubricant is an excellent choice for all-purpose machining of steel and aluminum alloys.

Micro Lubrication, now that's **Clever.**

#### BENEFITS

- Eliminates* coolant waste
- Eliminates* coolant maintenance
- Eliminates* corrosion
- Eliminates* post cleaning process
- Eliminates* rancidity and odors
- Eliminates* costly additives
- Eliminates* mixing/measuring
- Eliminates* smoke and oil residue

- Improves* air quality – no misting
- Eliminates* staining on sensitive metals
- Unlimited shelf life
- Produces dry chips – easier to process
- Cost effective
- Eliminates* petroleum oils
- Reduces* friction and heat
- Faster* machining – *Improved* finishes

#### APPLICATIONS

MicroLubricant ML-625 is the ideal replacement for operations using water-dilutable coolants. These operations benefit from MQL due to the unique lubrication properties, including but not limited to the specific operations listed below:

- Sawing & Cut-Off
- End Forming (Multiple Die)
- General CNC Machining
- Roll Forming
- Spinning

- Deep hole drilling
- Swaging
- Vacuum forming – Mold Release
- Injection molding
- Metallforming operations

#### DIRECTIONS FOR USE

MicroLubricant ML-625 is used as received. The lubricant is typically applied directly to the cutting tool through an adjustable applicator that does not atomize. MicroLubricant ML-625 must contact the tool **before** cutting or forming begins. Increasing the feed rate eliminates hot parts and reducing the feed rate eliminates hot tooling.

#### PROPERTIES

Appearance	Clear, yellow liquid	Water Solubility	N/A
Odor	Bland	pH	N/A
Specific Gravity	0.9044 @ 72°F	Biodegradable, Biorenewable,	Yes
Heat Treatable	Yes	Biosustainable	

**PACKAGING:** MicroLubricant ML-625 is available in 1 gallon containers, 5 gallon pails, 55 gallon drums and 330 gallon totes.

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# MicroLubricant M-350

## Minimum Quantity Lubrication

### Heavy Duty MQL For Steel and Aluminum



#### PRODUCT DESCRIPTION

**MicroLubricant M-350** is a naturally derived minimal quantity lubricant typically applied in "drops" to eliminate traditional flood coolant applications. **MicroLubricant M-350** is ideally suited for *near dry machining* operations. **MicroLubricant M-350** is excellent on both steel and aluminum and it is the lubricant of choice for machining mixed metals. **MicroLubricant M-350** is the ideal replacement for any operation using water dilutable coolants.

#### BENEFITS

*Eliminates* coolant waste  
*Eliminates* coolant maintenance  
*Eliminates* corrosion  
*Eliminates* post cleaning process  
*Eliminates* rancidity and odors  
*Eliminates* costly additives  
*Eliminates* mixing/measuring  
*Eliminates* smoke and oil residue

*Improves* air quality – no misting  
*Eliminates* staining on sensitive metals  
**90% Biodegradable**  
Produces dry chips – easier to process  
Cost effective  
*Eliminates* petroleum oils  
*Reduces* friction and heat  
*Faster* machining – *Improved* finishes

#### APPLICATIONS

*All metal operations benefit from MQL due to the unique lubrication properties, including but not limited to the specific operations listed below:*

Sawing & Cut-Off  
General CNC Machining  
Rollforming  
Spinning

Deep hole drilling  
Vacuum forming – Mold Release  
Injection molding  
Metalforming operations

#### DIRECTIONS FOR USE

**MicroLubricant M-350** is used as received. The lubricant is typically applied directly to the cutting tool through an adjustable applicator that does not atomize. **MicroLubricant M-350** must contact the tool **before** cutting or forming begins. Increasing the feed rate eliminates hot parts and reducing the feed rate eliminates hot tooling.

#### PROPERTIES

Appearance	Green, clear liquid	Water Solubility	N/A
Odor	Bland	pH	N/A

#### PACKAGING

**MicroLubricant M-350** is available in 1 gallon containers, 5 gallon pails, 55 gallon drums and 330 gallon totes.

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# MicroLubricant ML-700

## Minimum Quantity Lubricant

### Heavy-Duty MQL for All Metals



#### MQL Technology

The process of using minute quantities (drops) of lubricant as opposed to flood lubricant to machine or form metal is now available to you. Microlubrication successfully replaces flood coolants and costly recirculating systems. MQL technology provides excellent results both in terms of performance and total system costs.

MicroLubrication, now that's... **Clever.**

#### Product Description

**MicroLubricant ML-700** is a heavy-duty minimal quantity lubricant for cutting and forming of all metals. **ML-700** is a synergistic blend of botanical and synthetic lubricants that combines all three lubrication processes in **one** lubricant. This state-of-the-art formulation is unique in that it optimizes all machining and forming operations. **ML-700** is completely soluble in **cold** water thus leaving absolutely no residue on the part!

#### Benefits

- ✓ *Eliminates* coolant waste
- ✓ *Eliminates* coolant maintenance
- ✓ *Eliminates* corrosion
- ✓ *Eliminates* post cleaning process
- ✓ *Eliminates* rancidity and odors
- ✓ *Eliminates* costly additives
- ✓ *Eliminates* mixing/measuring
- ✓ *Eliminates* smoke and oil residue
- ✓ *Eliminates* lubricant residue
- ✓ *Improves* air quality – no misting
- ✓ *Eliminates* staining on sensitive metals
- ✓ **100% Biodegradable**
- ✓ Produces dry chips – easier to process
- ✓ *Eliminates* flood lubrication – cost effective
- ✓ *Eliminates* petroleum oils
- ✓ *Reduces* friction and heat
- ✓ *Faster* machining – *Improved* finishes
- ✓ Heat treatable

#### Applications

- ✓ Milling
- ✓ Drilling
- ✓ Tapping
- ✓ Grinding
- ✓ Rollforming
- ✓ Forming
- ✓ Circular Sawing
- ✓ Band sawing
- ✓ Reaming
- ✓ Punching
- ✓ Bending
- ✓ Drawing

#### Directions For Use

**ML-700** is used as received or diluted with water. The lubricant is typically applied directly to the workpiece through an adjustable applicator that does not atomize. The lubricant must contact the tool before cutting or forming begins. Increasing the feed eliminates hot parts and reducing the feed eliminates hot tooling.

#### Properties

Appearance	Clear white liquid	Water Solubility	Complete
Odor	Bland	pH	8.6
Flash	None	Viscosity (SUS @100f)	135
Specific Gravity	1.05	Acid Number	<0.05

**Packaging** **ML-700** is available in 1 gallon containers, 5 gallon pails, 55 gallon drums and 330 gallon totes

Rev.: 05-01-11

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# MicroLubricant ML-156

## Minimum Quantity Lubrication

### Botanical MicroLubricant for Steel and Aluminum Alloys



#### Product Description

**MicroLubricant ML-156** is a 100% botanically derived (green), microLubricant. This minimal quantity lubricant is applied in "drops" to eliminate traditional flood coolant applications. **MicroLubricant ML-156** is ideally suited for near dry machining (NDM) operations. This lubricant is an excellent choice for all-purpose machining of steel and aluminum alloys.

#### Benefits

- Eliminates coolant waste
- Eliminates coolant maintenance
- Eliminates corrosion
- Eliminates post cleaning process
- Eliminates rancidity and odors
- Eliminates costly additives
- Eliminates mixing/measuring
- Eliminates smoke and oil residue
- Improves air quality – no misting
- Eliminates staining on sensitive metals
- Unlimited shelf life
- Produces dry chips – easier to process
- Cost effective
- Eliminates petroleum oils
- Reduces friction and heat
- Faster machining – Improved finishes

#### Applications

**MicroLubricant ML-156** is the ideal replacement for operations using water-dilutable coolants. These operations benefit from MQL due to the unique lubrication properties, including but not limited to the specific operations listed below:

- End Forming (Multiple Die)
- Sawing & Cut-Off
- Deep hole drilling
- General and CNC Machining
- Vacuum forming – Mold Release
- Swaging
- Rollforming
- Injection molding
- Spinning
- Metalforming operations

#### Directions for Use

**MicroLubricant ML-156** is used as received. The lubricant is typically applied directly to the cutting tool through an adjustable applicator that does not atomize. **MicroLubricant ML-156** must contact the tool before cutting or forming begins. Increasing the feed rate eliminates hot parts and reducing the feed rate eliminates hot tooling.

#### Packaging

**MicroLubricant ML-156** is available in 1 gallon containers, 5 gallon pails, 55 gallon drums and 330 gallon.

PROPERTIES	
Appearance	Clear, yellow liquid
Odor	Bland
Water Solubility	N/A
pH	N/A
Specific Gravity	0.9044 @ 72°F
Heat Treatable	Yes
Biodegradable, Biorenewable, Biosustainable	Yes

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# MicroLubricant ML-600

## Minimum Quantity Lubricant

### Light-Medium Duty MQL

#### For Soft Metals



## Product Description

MicroLubricant ML-600 is a light to medium-duty minimal quantity lubricant for soft metals.

The process of using minute quantities (drops) of lubricant as opposed to flood lubricant to machine or form metal is now available to you. Microlubrication successfully replaces flood coolants and costly recirculating systems. MQL technology provides excellent results both in terms of performance and total system costs.

## Benefits

*Eliminates* coolant waste  
*Eliminates* coolant maintenance  
*Eliminates* corrosion  
*Eliminates* post cleaning process  
*Eliminates* rancidity and odors  
*Eliminates* costly additives  
*Eliminates* mixing/measuring  
*Eliminates* smoke and oil residue

*Improves* air quality – no misting  
*Eliminates* staining on sensitive metals  
**100% Biodegradable**  
*Produces* dry chips – easier to process  
*Cost* effective  
*Eliminates* petroleum oils  
*Reduces* friction and heat  
*Faster* machining – *Improved* finishes

## Applications

Milling	Circular Sawing
Drilling	Band sawing
Tapping	Reaming
Grinding	Punching
Rollforming	Bending
Forming	Stamping

## Directions For Use

ML-600 is used as received. The lubricant is typically applied directly to the cutting tool through an adjustable applicator that does not atomize. The lubricant must contact the tool before cutting or forming begins. Increasing the feed eliminates hot parts and reducing the feed eliminates hot tooling

## Properties

Appearance	Clear white liquid	Water Solubility	N/A
Odor	Bland	pH	N/A
Flash Point	140°C	Viscosity (SUS @100f)	140
Specific Gravity	0.839	Acid Number	<0.05

**Packaging** ML-600 is available in 1 gallon containers, 5 gallon pails, 55 gallon drums and 330 gallon totes

Rev. 05/01/11

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# MicroLubricant ML-725

## Minimum Quantity Lubrication

### Heavy Duty MQL For Steel and Aluminum



#### PRODUCT DESCRIPTION

*MicroLubricant ML-725* is a naturally derived minimal quantity lubricant typically applied in "drops" to eliminate traditional flood coolant applications. *MicroLubricant ML-725* is ideally suited for *near dry machining* operations. *MicroLubricant ML-725* is excellent on both steel and aluminum and it is the lubricant of choice for machining mixed metals. *MicroLubricant ML-725* is the ideal replacement for any operation using water dilutable coolants.

Micro Lubrication, now that's... **Clever.**

#### BENEFITS

- ✓ *Eliminates* coolant waste
- ✓ *Eliminates* coolant maintenance
- ✓ *Eliminates* corrosion
- ✓ *Eliminates* post cleaning process
- ✓ *Eliminates* rancidity and odors
- ✓ *Eliminates* costly additives
- ✓ *Eliminates* mixing/measuring
- ✓ *Eliminates* smoke and oil residue
- ✓ *Improves* air quality – no misting
- ✓ *Eliminates* staining on sensitive metals
- ✓ Unlimited shelf life
- ✓ Produces dry chips – easier to process
- ✓ Cost effective
- ✓ *Eliminates* petroleum oils
- ✓ *Reduces* friction and heat
- ✓ *Faster* machining – *Improved* finishes

#### APPLICATIONS

*All metal operations benefit from MQL due to the unique lubrication properties, including but not limited to the specific operations listed below:*

- ✓ Sawing & Cut-Off
- ✓ General CNC Machining
- ✓ Rollforming
- ✓ Spinning
- ✓ Deep hole drilling
- ✓ Vacuum forming – Mold Release
- ✓ Injection molding
- ✓ Metalforming operations

#### DIRECTIONS FOR USE

*MicroLubricant ML-725* is used as received. The lubricant is typically applied directly to the cutting tool through an adjustable applicator that does not atomize. *MicroLubricant ML-725* must contact the tool **before** cutting or forming begins. Increasing the feed rate eliminates hot parts and reducing the feed rate eliminates hot tooling.

#### PROPERTIES

Appearance	Red, clear liquid	Water Solubility	N/A
Odor	Bland	pH	N/A

#### PACKAGING

*MicroLubricant ML-725* is available in 1 gallon containers, 5 gallon pails, 55 gallon drums and 330 gallon

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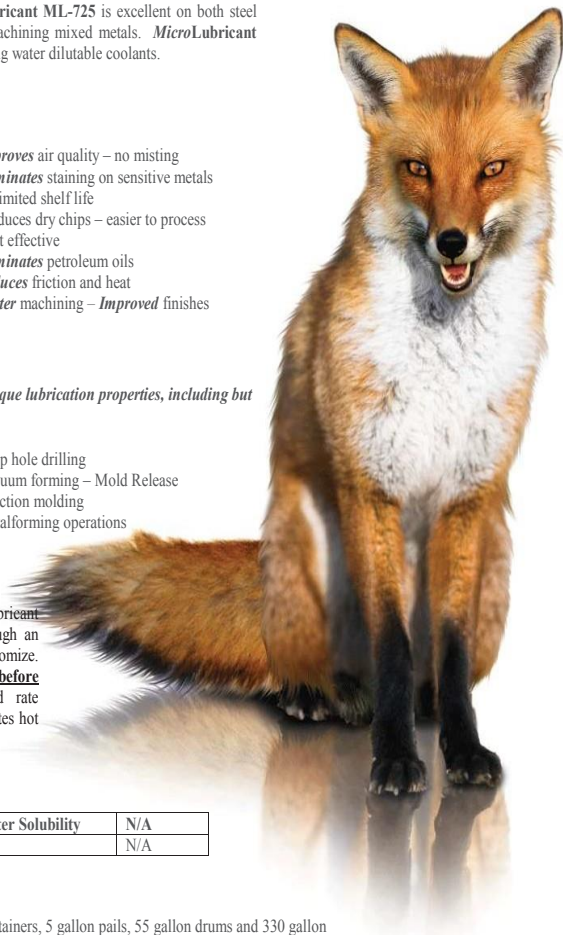


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[www.metalloidcorp.com/microlubricants](http://www.metalloidcorp.com/microlubricants)



# ADDVANCE BOTANICAL HAND CLEANER



## Product Description

**ADDVANCE BOTANICAL HAND CLEANER** is a heavy duty waterless or water dilutable detergent for hand washing in the machine shop or any industrial facility. This hand cleaner is composed of coconut and other botanical (green) ingredients. This unique formulation provides high detergency and emollient properties in a mild gentle to use hand cleaner.

## Benefits

- Botanical based – gentle on skin
- Versatile – used as received or diluted
- Cost effective – super concentrated
- Exceptional cleaning in hard or soft water
- Pleasant odor
- Exceptional cleaning in cold or hot water
- Unlimited shelf life
- Removes tough soils – grease, oil, graphite, paint/ coating residues and marking inks
- Environment safe renewable resource

## Directions for Use

**ADDVANCE HAND CLEANER** can be used as received or diluted with water depending on the severity of the soil. Apply a few drops in the palm of the hand and rub hands together to remove even the most difficult soil.



### PROPERTIES

	PROPERTIES		
Appearance	Yellow viscous fluid	Biodegradable	Yes
Green Product	Yes	Green Product	Yes
Renewable Resource	Yes	Flammable	No

## Packaging

**ADDVANCE HAND CLEANER** is available in several convenient package formats:

8 oz. Refillable Squeeze Bottles  
Quarts  
One Gallon Containers  
Fifty-Five Gallon Drums

Case of 12 8 oz. Refillable Squeeze Bottles  
16 oz Pints  
Five Gallon Pails



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# METCOR 52

## Water Based

### Corrosion Preventative



#### Product Description

METCOR 52 is an oil free, biodegradable, indoor corrosion preventative for all metals, METCOR 52 uses "Green Chemistry" derived from botanical renewal resources. METCOR 52 is both people and earth friendly without sacrificing performance.

#### Benefits

- Compatible with most alloys
- Heat treatable film
- Contains no hazardous oils or solvents
- Easy to remove or clean off
- Biodegradable
- Long term indoor protection
- Dry transparent film

#### Applications

- Final rinse protection in cleaner lines
- Additive to enhance vibratory cleaning/protection
- In-transit part protection
- Dip coating machined parts
- In process protection prior to painting, plating or finishing

#### Directions For Use

METCOR 52 can be used as received or diluted down to 1:10 with water for lighter film weights. The deposited protective film will dry to a semi hard transparent coating. This coating seals the metal surface offering substantial indoor corrosion protection to both ferrous and non-ferrous metals.

#### Packaging

METCOR 52 is available in 5 gallon pails, 55 gallon drums, 330 gallon totes and bulk.



PROPERTIES			
Appearance	Light brown, hazy liquid	Flash Point	None
Odor	Bland	Protection	Short term, indoor
Water Solubility	Completely at all proportions	Film	Semi hard

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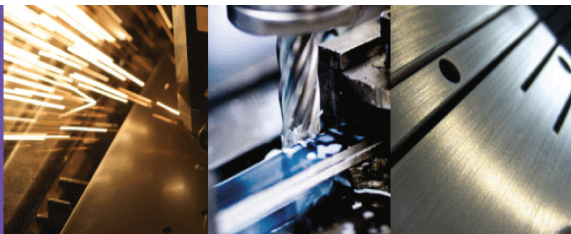
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facsimile 903.589.3924



# METCOR 57

## Solvent Based

### Corrosion Preventative



#### PRODUCT LINE

Metalloid Corporation manufactures a complete line of industrial metalworking fluids and cleaners. Metalloid's product line includes, but is not limited to Machining and Grinding Coolants, Stamping and Forming Fluids, Corrosion Inhibitors, Swiss Cutting Oils and Aqueous Cleaners.

#### PRODUCT DESCRIPTION

**METCOR 57** is a solvent based corrosion preventative for long-term indoor protection of ferrous and non-ferrous metals. **METCOR 57** is fast drying, water displacing, and non-staining. The deposited dry film "seals off" metal surfaces from moisture and humidity on contact. **METCOR 57** is ideally suited to protect corrosive sensitive metals and alloys.

#### BENEFITS

- Long term indoor protection
- Excellent penetrating and wetting properties
- Resists moisture and humidity
- Fingerprint neutralizer
- Multi-metal safe
- Fast drying, non-gumming film protection
- Easy to use – no mixing or measuring
- Easy to clean off
- Clear film for optimal part identification
- Economical – low end use cost

#### APPLICATIONS

- Protects coil, bar, tube and sheet stock
- Protects dies, tools, machine surfaces
- Protects gauges, files and hand tools
- Protects sensitive case iron parts

- Protects all moving parts
- Prevents "flash rusting"
- Protects shipped or stored parts
- Use for long-term protection

#### DIRECTIONS FOR USE

**METCOR 57** is used as received. Application methods include spraying, brushing, rolling or dip tank.

#### PACKAGING

**METCOR 57** is available in 5 gallon pails, 55 gallon drums, 330 gallon totes and bulk

#### The Metalloid Partnership Advantage



Properties	
Appearance	Clear amber liquid
Odor	Characteristic
Water Solubility	Insoluble
Flash Point	150-160° F
Protection	Long term 6 mo to 1 yr indoor
Film	Dry

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# METCOR 71

## Botanical Based

### Corrosion Preventative



**USDA  
CERTIFIED  
BIOBASED  
PRODUCT**  
PRODUCT 89%

#### Product Description

**METCOR 71** is a botanical-based, environmentally friendly, corrosion preventative. This product is formulated with bio-renewable and bio-sustainable resources and is both bio-degradable and is chemically neutral. **METCOR 71** will protect all metal surfaces from moisture, high humidity and salt spray vapors. **METCOR 71** contains no petroleum oil or hazardous materials.

#### Benefits

- Outstanding "wet-out" properties for uniform part coverage
- Penetrates and seals hard to get at metal surfaces
- Safe on steels, yellow, white and red metals
- Lubricates and cleans while protecting moving parts
- Protects parts during long-term storage and/or covered transit
- Heat treatable - ashless formulation
- Safe "GREEN" formulation is both environment and people friendly
- Protective coating prevents "white rust" on galvanized or aluminum alloys

#### Applications

- General long-term rust protection of all metals
- Dip tank cleaning and protection of small parts
- Protect hand tools and cutlery
- Lubricate moving mechanisms

#### Directions For Use

**METCOR 71** is used as received and applied by roller, spray or dip methods.

#### Packaging

**METCOR 71** is available in 5 gallon pails, 55 gallon drums, 330 gallon totes and bulk.



PROPERTIES			
Appearance	Dark amber , clear liquid	Cloud Point	-12°C
Odor	Characteristic	Bio-Degradability	100%
Viscosity	41 S.U.S. @ 100°F	Petroleum Oil	None
Specific Gravity	0.8850 to .08890 @ 70°F		

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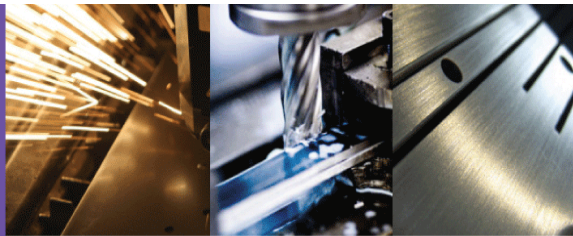


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# METKLEEN 2080

## ALL Purpose – All Metal Cleaner and Degreaser



### PRODUCT LINE

Metalloid Corporation manufactures a complete line of industrial metalworking fluids and cleaners. Metalloid's product line includes, but is not limited to Machining and Grinding Coolants, Stamping and Forming Fluids, Corrosion Inhibitors, Swiss Cutting Oils and Aqueous Cleaners.

### PRODUCT DESCRIPTION

**METKLEEN 2080** is a low alkaline, all purpose cleaner for all metals with uncommonly high detergency and soil suspending properties. **METKLEEN 2080** is the ultimate choice for vibratory cleaning due to its low surface tension surfactants and high detergency builders. **METKLEEN 2080** contains a "built-in" rust protection package to protect parts and media during processing.

### BENEFITS

- ✓ Exceptional wetting and rinsing properties
- ✓ Outstanding in-process rust prevention
- ✓ No foam when hot – low foam when cold
- ✓ Excellent "soil suspending" properties
- ✓ Safe on the most sensitive metals
- ✓ Economical – cleans at low temperatures
- ✓ Unique oil splitting characteristics
- ✓ Non-hazardous – safe – mild
- ✓ Non-chelating – easy to treat for waste disposal.

### CLEANING PROCESSES

- ✓ Vibratory cleaning
- ✓ Rotary barrel cleaning
- ✓ Hot tank cleaning
- ✓ Multi-stage spray washers
- ✓ Small parts cleaning
- ✓ Plating lines

### DIRECTIONS FOR USE

**METKLEEN 2080** is typically diluted in water between 2% and 10% dependent on soil composition, water temperature, dwell time and cleaner application method. **METKLEEN 2080** is formulated to clean between 60° and 150° F.

### PACKAGING

**METKLEEN 2080** is available in 5 gallon pails, 55 gallon drums, 330 gallon totes and bulk.

### The Metalloid Partnership Advantage



Properties	
Appearance	Blue liquid
Odor	Characteristic
Water Solubility	Complete at all proportions
pH (concentrate)	10.2
Flash Point	None
Specific Gravity	1.08

Consult your Metalloid representative for cleaner dispensers and titration kits.

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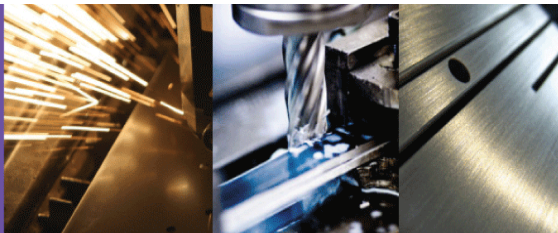
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# METKLEEN 2090

## Soft Metal Spray Wash Cleaner



### PRODUCT LINE

Metalloid Corporation manufactures a complete line of industrial metalworking fluids and cleaners. Metalloid's product line includes, but is not limited to Machining and Grinding Coolants, Stamping and Forming Fluids, Corrosion Inhibitors, Swiss Cutting Oils and Aqueous Cleaners.

### PRODUCT DESCRIPTION

**METKLEEN 2090** is a low alkaline, aqueous spray wash cleaner for soft metals. The unique surfactant chemistry optimizes detergency and oil "split-out" from the cleaner bath for improved waste treatment. **METKLEEN 2090**, while aggressive against petroleum based soils is mild on sensitive metals and finishing equipment.

### BENEFITS

- Outstanding oil rejection
- Non-staining on soft metals
- Easy waste treatment
- Non-foaming – hard water stable
- Improves finishes – "Brightens & Cleans"
- Economical – cleans at low temperatures
- High operator acceptance – mild on hands and safe to use
- Compatible with many paint and coating films
- Rinses off easily without spotting
- Balanced pH for optimum detergency

### CLEANING PROCESSES

- Aluminum spray cleaning
- Cleans off coolants & die lubes
- Wipe down cleaning
- Janitorial hard surface cleaning

- High pressure power washing
- Pre-clean on conversion coating lines
- Safe on hi-tech and electrical components
- Copper rod, wire and tube cleaning

### DIRECTIONS FOR USE

**METKLEEN 2090** is typically diluted in water between 1% and 10% dependent on soil composition, water temperature, dwell time and cleaner application method. Increasing water temperature accelerates soil removal. **METKLEEN 2090** was formulated to clean between 75° and 150° F. Hard or soft waters can be used for make-up without adverse effect on performance.

### PACKAGING

**METKLEEN 2090** is available in 5 gallon pails, 55 gallon drums, 330 gallon totes and bulk.

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### The Metalloid Partnership Advantage

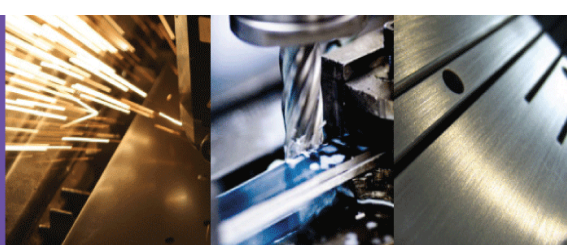


Properties	
Appearance	Clear green liquid
Odor	Pleasant
Water Solubility	Complete at all proportions
pH (concentrate)	9.8
Flash Point	None
Specific Gravity	1.10

Consult your Metalloid representative for cleaner dispensers and titration kits.

# METKLEEN 2120

## Soft Metal Hot-Tank Cleaner



### PRODUCT LINE

Metalloid Corporation manufactures a complete line of industrial metalworking fluids and cleaners. Metalloid's product line includes, but is not limited to Machining and Grinding Coolants, Stamping and Forming Fluids, Corrosion Inhibitors, Swiss Cutting Oils and Aqueous Cleaners.

### PRODUCT DESCRIPTION

**METKLEEN 2120** is a low alkaline, aqueous hot-tank cleaner for soft metals. The unique surfactant chemistry optimizes detergency and oil "split-out" from the cleaner bath for improved waste treatment. **METKLEEN 2120**, while aggressive against petroleum based soils is mild on sensitive metals and finishing equipment.

### BENEFITS

- Outstanding oil rejection
- Non-staining on soft metals
- Easy waste treatment
- Low foaming – hard water stable
- Improves finishes – "Brightens & Cleans"
- Economical – cleans at low temperatures
- High operator acceptance – mild on hands and safe to use
- Compatible with many paint and coating films
- Rinses off easily without spotting
- Balanced pH for optimum detergency

### CLEANING PROCESSES

- Hot-tank cleaning
- Cleans off coolants & die lubes
- Wipe down cleaning
- Janitorial hard surface cleaning
- Cleans small parts
- High pressure power washing
- Pre-clean on conversion coating lines
- Safe on hi-tech and electrical components
- Cleans non-ferrous rod and wire
- Cleans castings, extrusions, sheet stock

### DIRECTIONS FOR USE

**METKLEEN 2120** is typically diluted in water between 5% and 10% dependent on soil composition, water temperature, dwell time and cleaner application method. Increasing water temperature accelerates soil removal. **METKLEEN 2120** was formulated to clean between 120° and 130° F. Hard or soft waters can be used for make-up without adverse effect on performance.

### PACKAGING

**METKLEEN 2120** is available in 5 gallon pails, 55 gallon drums, 330 gallon totes and bulk.

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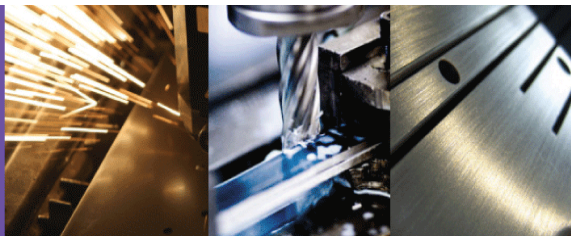
Properties	
Appearance	Clear green liquid
Odor	Pleasant
Water Solubility	Complete at all proportions
pH (concentrate)	9.8
Flash Point	None
Specific Gravity	1.10

Consult your Metalloid representative for cleaner dispensers and titration kits.

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# METKLEEN 2140 Floor/Maintenance Cleaner



## PRODUCT LINE

Metalloid Corporation manufactures a complete line of industrial metalworking fluids and cleaners. Metalloid's product line includes, but is not limited to Machining and Grinding Coolants, Stamping and Forming Fluids, Corrosion Inhibitors, Swiss Cutting Oils and Aqueous Cleaners.

## PRODUCT DESCRIPTION

**METKLEEN 2140** is a heavy-duty floor and all purpose maintenance cleaner. This high detergency, hard surface cleaner simultaneously cleans and deodorizes the most heavily soiled surfaces. The unique wetting properties of **METKLEEN 2140** enhances detergency and soil penetration. **METKLEEN 2140** is an excellent choice to remove the toughest oils, greases and shop soils.

## BENEFITS

- Leaves floors *Clean & Dry!*
- Hard water stable
- Multifunctional – cleans and deodorizes
- Cleans well in cold water
- Economical – highly concentrate
- Safe on ferrous and non-ferrous metals
- Safe on plastic, glass, ceramics and linoleum
- Removes tire tracks, grease, carbon, and other hard to remove soils

## CLEANING PROCESSES

- |                                  |                         |
|----------------------------------|-------------------------|
| Floor scrubbers                  | Soak cleaning           |
| Mop & brush cleaning             | Wipe down cleaning      |
| Spray bottle cleaning            | Tank and sump cleaning  |
| Janitorial hard surface cleaning | Machine & part cleaning |

## DIRECTIONS FOR USE

**METKLEEN 2140** can be diluted with water at any temperature. For tough soils increase the concentration and water temperature accordingly. Cleaning performance is influenced by application, time, temperature, concentration and soil composition.

Recommended Starting Dilutions	
Automatic floor scrubbers	1:25 to 1:50
General Maintenance cleaning	1:20 to 1:100
Hot tank cleaning	1:10 to 1:20
Wipe down cleaning	1:30 to 1:40
Machine & part cleaning	1:10 to 1:20



Properties	
Appearance	Clear green liquid
Odor	Pleasant
Water Solubility	Complete at all proportions
pH (concentrate)	11
Flash Point	None
Specific Gravity	1.07

Consult your Metalloid representative for cleaner dispensers and titration kits.

**PACKAGING:** **METKLEEN 2140** is available in 5 gallon pails, 55 gallon drums, 330 gallon totes and bulk.

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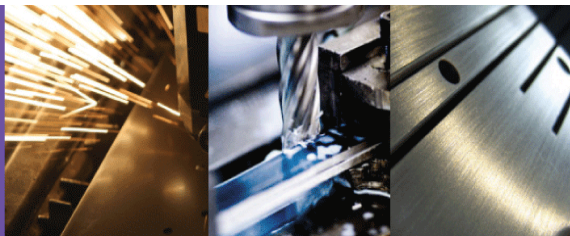
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# METKLEEN 2150

## Heavy-Duty Spray and Tank Cleaner For Steel



### PRODUCT LINE

Metalloid Corporation manufactures a complete line of industrial metalworking fluids and cleaners. Metalloid's product line includes, but is not limited to Machining and Grinding Coolants, Stamping and Forming Fluids, Corrosion Inhibitors, Swiss Cutting Oils and Aqueous Cleaners.

### PRODUCT DESCRIPTION

**METKLEEN 2150** is a high alkaline, aqueous cleaner for ferrous metals that require removal of difficult soils and/or oils at low temperature. **METKLEEN 2150** neutralizes and lifts even the toughest water insoluble oils, greases and shop soils. **METKLEEN 2150** is the ideal choice to replace solvent cleaners and the hazards associated with their use.

### BENEFITS

- ✓ Versatile – used in multiple cleaning processes
- ✓ Low temperatures – cost effective cleaning
- ✓ Non-foaming – high wetting formulation
- ✓ Outstanding oil splitting properties
- ✓ Heavy-duty - high detergency - fast acting.
- ✓ Safe on steel, stainless, copper, brass, magnesium and titanium
- ✓ Removes heavy drawing lubricants, greases, carbon deposits, etc.

### CLEANING PROCESSES

- ✓ High pressure cleaning
- ✓ Rotary barrel cleaning
- ✓ Hot tank cleaning
- ✓ Coil cleaning
- ✓ Engine parts cleaning
- ✓ Pretreatment cleaning

### DIRECTIONS FOR USE

**METKLEEN 2150** is typically used in solution with water between 1% to 10% depending on soil composition, water temperature, dwell time and application method. Corrosion prevention is necessary to protect the freshly cleaned metal surfaces. Increasing water temperature accelerates soil removal. **METKLEEN 2150** was formulated for low temperature cleaning between 60° to 180° F. Hard or soft waters can be used for make-up without adverse effect on performance.

### PACKAGING:

**METKLEEN 2150** is available in 5 gallon pails, 55 gallon drums, 330 gallon totes and bulk.

### The Metalloid Partnership Advantage



Properties	
Appearance	Colorless, clear liquid
Odor	Bland
Water Solubility	Complete at all proportions
pH (5%)	13.2
Flash Point	None
Specific Gravity	1.3

Consult your Metalloid representative for cleaner dispensers and titration kits.

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# ADDVANCE HUMMINGBIRD GREASE



**USDA  
CERTIFIED  
BIOBASED  
PRODUCT**  
PRODUCT 100%

## Product Description

**ADDVANCE HUMMINGBIRD GREASE** is 100% botanical for general purpose in-door or out-door applications. This product contains no petroleum oils, soaps, or clays. It is formulated with only biodegradable and biorenewable and safe components. **HUMMINGBIRD GREASE** has exceptional anti-wear properties and corrosion protection. The low temperature pumpability of this product makes it an excellent choice for manual or centralized greasing systems.

## Benefits

- Anti-wear properties superior to soap greases
- Cleaner than soap or clay greases
- Outstanding water and humidity resistance
- Safe – No hazardous ingredients
- Exceptional shear stability
- Good oxidation stability
- Outstanding lubricating properties
- Safe on copper or other sensitive metals
- Friendly to people and environment

## Applications

- Bearings
- Ball Joints/Bearings
- Axles
- Roll Forming Mills
- Gear Boxes
- Fittings

PROPERTIES			
Appearance	Firm, light amber solid	Biodegradable	Yes
NLGI Grade	2	Biorenewable	Yes
Dropping Point ASTM D2265	161°F	Biosustainable	Yes
Worked Penetration ASTM D217	278	Ashless	Yes
Contains no petroleum oil, sulfur, chlorine, phosphorus, or organic solvents			

## Packaging

**ADDVANCE HUMMINGBIRD GREASE** is available in open head containers of 1, 5, and 55 gallon sizes.



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